

# **EXHIBIT 1**

**UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF TEXAS  
FORT WORTH DIVISION**

UNITED STATES OF AMERICA,

Plaintiff

V.

THE BOEING COMPANY,

*Defendant.*

Case No. 4:21-cr-005-O-1

**VICTIMS' FAMILIES' PROFFER OF FACTS THAT THEY WOULD ESTABLISH AT  
AN EVIDENTIARY HEARING**

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## **VICTIMS' FAMILIES' PROFFER OF FACTS THAT THEY WOULD ESTABLISH AT AN EVIDENTIARY HEARING**

Naoise Connolly Ryan et al. (the “victims’ families”), by and through undersigned counsel, respectfully submit this proffer of facts that, on information and belief, they would establish if the Court were to provide them an evidentiary hearing regarding “crime victim” status and issues related to the violation of their rights under the Crime Victims Rights Act (“CVRA”). To assist in identifying the support for some of the statements below, the victims’ families include footnote references to some readily available materials that support their assertions. References in the footnotes to the “Statement of Facts” or “SOF” refer to the Statement of Facts that Boeing agreed to in the Deferred Prosecution Agreement (DPA), Dkt. 4 at A-1 to A-16. References to the “2020 House Comm. Rep.” are to the Final Committee Report: The Design, Development and Certification of the Boeing 737 MAX: Majority Staff of the House Comm. on Transportation and Infrastructure (Sept. 2020). References to “anticipated testimony” from various witnesses reflects counsel’s belief as to what an anticipated witness would testify to if called as a witness in this matter. This proffer is subject to refinement if the Court grants the victims’ families’ motion for release of information helpful to their case. This proffer is also subject to supplementation if the Government provides any specific points of concern or if new information becomes available.

### **I. Introduction**

1. On October 29, 2018, Lion Air Flight 610, a Boeing 737 MAX, crashed into the Java Sea shortly after takeoff from Jakarta, Indonesia. The crash killed all 189 passengers and crew on board.<sup>1</sup>

2. On March 10, 2019, Ethiopian Airlines Flight 302, a Boeing 737 MAX, crashed near Ejere, Ethiopia shortly after takeoff from Addis Ababa, Ethiopia. The crash killed all 157 passengers and crew on board.<sup>2</sup>

3. A common cause was behind both crashes. Shortly after takeoff and while attempting to climb, both airplanes and their pilots experienced dangerous, confusing, and counter-intuitive warnings and flight control anomalies due to a defectively designed flight control system, which caused the planes to pitch down erratically through the sky in repeated, extreme maneuvers uncommanded by the pilots. Data obtained from both airplanes showed that the pilots were engaged in a terrifying tug-of-war with the planes’ Maneuvering Characteristics Augmentation System (MCAS), a software code built into the Boeing 737 MAX’s flight control computer to correct the differences in stall handling between the MAX and earlier generations of the 737, as the pilots manually tried to pull the airplanes’ noses up while MCAS repeatedly caused the planes to dive. Pilots of both Flight 302 and Flight 610 ultimately lost their fight with Boeing’s MCAS, and 346 passengers and flight crew lost their lives.<sup>3</sup>

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<sup>1</sup> SOF at ¶48.

<sup>2</sup> SOF at ¶ 53.

<sup>3</sup> See generally Final Committee Report: The Design, Development and Certification of the Boeing 737 MAX: Majority Staff of the House Comm. on Transportation and Infrastructure (Sept. 2020) (hereinafter “2020 House Comm. Rep.”).

4. On January 7, 2021, The Boeing Company (“Boeing”) admitted that it had engaged in a criminal conspiracy that extended for more than two years to deceive the Federal Aviation Administration (“FAA”) about the capabilities of MCAS and its safety implications for the Boeing 737 MAX.<sup>4</sup>

5. Naoise Connolly Ryan had her husband, Mick Ryan, taken from her in the crash of ET Flight 302. She assumes his rights as his representative.<sup>5</sup>

6. Emily Chelangat Babu and Joshua Mwazo Babu had their son, Joshua Mwazo Babu, taken from them in the crash of ET Flight 302. They assume his rights as his representative.<sup>6</sup>

7. Catherine Berthet had her daughter, Camille Geoffroy, taken from her in the crash of ET Flight 302. Catherine assumes Camille’s rights as her representative.<sup>7</sup>

8. Huguette Debets had the father of her two young children, Jackson Musoni, taken from her in the crash of ET Flight 302. She assumes his rights as his representative.<sup>8</sup>

9. Bayihe Demissie had his wife, Elsabet Minwuyelet Wubete, taken from him in the crash of ET Flight 302. He assumes her rights as her representative.<sup>9</sup>

10. Luca Dieci had his brother, Paolo Dieci, taken from him in the crash of ET Flight 302. Luca assumes Paolo’s rights as his representative.<sup>10</sup>

11. Sri Hartati had her husband, Eryanto, taken from her in the crash of Lion Air Flight JT610. Sri assumes Eryanto’s rights as his representative.<sup>11</sup>

12. Zipporah Muthoni Kuria had her father, Joseph Kuria Waithaka, taken from her in the crash of ET Flight 302. Zipporah assumes his rights as his representative.<sup>12</sup>

13. Javier de Luis had his sister, Graziella de Luis, taken from him in the crash of ET Flight 302. Javier assumes Graziella’s rights as her representative.<sup>13</sup>

14. Nadia Milleron and Michael Stumo had their daughter, Samya Stumo, taken from them in the crash of ET Flight 302. They assume her rights as her representative.<sup>14</sup>

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<https://transportation.house.gov/imo/media/doc/2020.09.15%20FINAL%20737%20MAX%20Report%20for%20Public%20Release.pdf>.

<sup>4</sup> SOF at ¶¶ 1-54.

<sup>5</sup> See Ryan Aff., Ex. 1, Appendix to Dkt. 52 (“Appx.”) at 002.

<sup>6</sup> See Babus Aff., Ex. 2, Appx. 005.

<sup>7</sup> See Berthet Aff., Ex. 3, Appx. 008.

<sup>8</sup> See Debets Aff., Ex. 4, Appx. 011.

<sup>9</sup> See Demissie Aff., Ex. 5, Appx. 015.

<sup>10</sup> See Dieci Aff., Ex. 6, Appx. 018.

<sup>11</sup> See Hartati Aff., Ex. 7, Appx. 021.

<sup>12</sup> See Kuria Aff., Ex. 8, Appx. 024.

<sup>13</sup> See de Luis Aff., Ex. 9, Appx. 027.

<sup>14</sup> See Milleron and Stumo Aff., Ex. 10, Appx. 030.

15. Chris Moore had his daughter, Danielle Moore, taken from him in the crash of ET Flight 302. He now assumes her rights as her representative.<sup>15</sup>

16. Paul Njoroge had his wife, Carolyne Nduta Karanja, and his three children, Ryan Njuguna Njoroge, Kelli W. Pauls, and Rubi W. Pauls, taken from him in the crash of ET Flight 302. Paul assumes their rights as their representative.<sup>16</sup>

17. Yuke Meiske Pelealu had her husband, Rudolf Petrus Sayers, taken from her in the crash of Lion Air Flight JT 610. Yuke assumes his rights as his representative.<sup>17</sup>

18. John Karanja Quindos had his wife, Anne Wangui Karanja, taken from him in the crash of ET Flight 302. He assumes her rights as her representative.<sup>18</sup>

19. Guy Daud Iskandar Zen S. had his daughter, Fiona Zen, taken from him in the crash of Lion Air Flight JT 610. He assumes her rights as her representative.<sup>19</sup>

## II. Background

### *A. Boeing's New Airplane: The 737 MAX*

20. The Boeing Company ("Boeing") is a U.S.-based multinational corporation that designs, manufactures, and sells airplanes to commercial airlines worldwide. Boeing is headquartered in Chicago, Illinois and operates from various locations, including in and around Seattle, Washington.<sup>20</sup>

21. Boeing's airline customers include major U.S.-based airlines and other airlines based overseas, including Lion Air (based in Indonesia) and Ethiopian Airlines (based in Ethiopia).<sup>21</sup>

22. The Boeing 737 is a single-aisle commercial airplane that can seat approximately 200 passengers and for decades has been one of Boeing's best-selling airplane models. Boeing began designing, manufacturing, and selling the Boeing 737 in the 1960s. Over time, Boeing designed, manufactured, and sold updated versions of the Boeing 737 to its airline customers, including major U.S.-based airlines and overseas airlines, including Lion Air and Ethiopian Airlines.<sup>22</sup>

23. In or around June 2011, Boeing began developing and marketing a new version of its Boeing 737 called the 737 MAX. The 737 MAX was designed by Boeing as a competitive answer to the Airbus A320neo – the new version of the A320 airplane developed by Boeing's biggest competitor in commercial airplanes. Like the A320neo, the 737 MAX promised increased fuel

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<sup>15</sup> See Moore Aff., Ex. 11, Appx. 046.

<sup>16</sup> See Njoroge Aff., Ex. 12, Appx. 050.

<sup>17</sup> See Pelealu Aff., Ex. 13, Appx. 053.

<sup>18</sup> See Quindos Aff., Ex. 14, Appx. 056.

<sup>19</sup> See Zen Aff., Ex. 15, Appx. 060.

<sup>20</sup> SOF at ¶ 1.

<sup>21</sup> SOF at ¶¶ 48, 53.

<sup>22</sup> SOF at ¶ 4.

efficiency over its prior version, the 737 Next Generation (“737 NG”). With this increased efficiency, the 737 MAX would offer fuel-cost savings for airlines both in the U.S. and overseas.<sup>23</sup>

24. Boeing is responsible for the acts of its officers, directors, employees, and agents set forth in this proffer.<sup>24</sup>

*B. The FAA AEG’s Role in Determining Pilot “Differences Training” for New Airplanes*

25. Before any U.S.-based airline can operate a newly designed commercial airplane, U.S. regulations require the Federal Aviation Administration (“FAA”), an organization within the United States Department of Transportation, to evaluate and certify the airplane for commercial use. Without this approval, a U.S.-based airline is not permitted to operate the airplane.<sup>25</sup>

26. As part of this evaluation and certification process, the FAA must make two distinct determinations: (i) whether the airplane meets U.S. federal airworthiness standards; and (ii) what minimum level of pilot training should be required for a pilot to fly the airplane for a U.S.-based airline. These two determinations are made by different groups within the FAA that are composed of different personnel with different organizational structures and different reporting lines.<sup>26</sup>

27. The FAA Aircraft Evaluation Group (“AEG”) is principally responsible for determining the minimum level of pilot training required for a pilot to become type-rated to fly the newly designed airplane for a U.S.-based airline. If the airplane is an updated version of a model that has already been type-certified, the FAA AEG compares the new version of the airplane (such as the 737 MAX) to the prior version of the airplane (such as the 737 NG). After evaluating the differences between the new and prior versions of the airplane, the FAA AEG mandates the minimum level of pilot training, known as “differences training,” for the new version.<sup>27</sup>

28. Based on the nature and extent of the differences between the new and prior version of the airplane, the FAA AEG assigns a level of differences training ranging from “Level A” through “Level E.” These levels of differences training range in rigor, with “Level A” being the least intensive and “Level E” the most intensive. As relevant here, “Level B” differences training generally includes computer-based training (“CBT”) training, and “Level D” differences training generally includes full-flight simulator training.<sup>28</sup>

29. At the conclusion of the FAA’s evaluation of the new version of the airplane, the FAA AEG publishes a Flight Standardization Board Report (“FSB Report”). The FAA Flight Standardization Board observes FAA order and guidance that describes the responsibilities and

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<sup>23</sup> SOF at ¶ 5

<sup>24</sup> SOF at ¶ 1.

<sup>25</sup> SOF at ¶ 6.

<sup>26</sup> SOF at ¶ 7.

<sup>27</sup> SOF at ¶ 8.

<sup>28</sup> SOF at ¶ 9.



procedures the FAA must follow to certify a new airplane and evaluates and validates the applicant's pilot training proposal.<sup>29</sup>

30. Among other things, the FSB Report contains relevant information about certain airplane systems and parts that the airplane manufacturer is required to incorporate into airplane manuals and pilot-training materials for all U.S.-based airlines that would fly the airplane. The FSB Report also contained the FAA AEG's differences-training determination.<sup>30</sup>

31. Airlines based in other countries seeking direct flight access to the profitable U.S. market are required to meet the same safety oversight levels that the FAA requires of airlines based in the United States. Ethiopian Airlines was among those foreign carriers.<sup>31</sup>

*C. Boeing's 737 MAX Chief Technical Pilots*

32. Boeing's 737 MAX Flight Technical Team was principally responsible for identifying and providing to the FAA AEG all information that was relevant to FAA AEG's publication of the 737 MAX FSB Report. The 737 MAX Flight Technical Team was separate and distinct from another group within Boeing that was responsible for providing information to the FAA for the determination of whether the airplane met U.S. federal airworthiness standards.<sup>32</sup>

33. From in or around early 2012 until in or around early 2014, Mark A. Forkner was a Technical Pilot for Boeing's 737 MAX Flight Technical Team. In or around early 2014, Forkner became Boeing's 737 MAX Chief Technical Pilot. In that role, Forkner led the 737 MAX Flight Technical Team. In or around July 2018, Forkner left Boeing to work for a major U.S.-based airline.<sup>33</sup>

34. From in or around mid-2014 until in or around July 2018, Boeing Employee-2 was a Technical Pilot for Boeing's 737 MAX Flight Technical Team. In or around July 2018, after Forkner left Boeing, Boeing Employee-2 became Boeing's 737 MAX Chief Technical Pilot. In that role, Boeing Employee-2 led the 737 MAX Flight Technical Team.<sup>34</sup>

35. Forkner and Boeing Employee-2 understood that the FAA AEG relied on them, as members of Boeing's 737 MAX Flight Technical Team, to identify and provide to the FAA AEG all information that was relevant to the FAA AEG in connection with the FAA AEG's publication of the 737 MAX FSB Report, including information that could impact the FAA AEG's differences-training determination.<sup>35</sup>

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<sup>29</sup> See [https://www.faa.gov/aircraft/air\\_cert/airworthiness\\_certification/fsb/](https://www.faa.gov/aircraft/air_cert/airworthiness_certification/fsb/).

<sup>30</sup> SOF at ¶ 10.

<sup>31</sup> <https://www.faa.gov/newsroom/international-aviation>.

<sup>32</sup> SOF at ¶ 11.

<sup>33</sup> SOF at ¶ 12; Indictment, U.S. v. Forkner, No. 4:21-cr-268-O, Docket Entry ("DE") 1 (N.D. Tex. Oct. 14, 2021).

<sup>34</sup> SOF at ¶ 13.

<sup>35</sup> SOF at ¶ 14.

36. Forkner and Boeing Employee-2 also understood that, because flight controls are vital to flying modern commercial airplanes, differences between the flight controls of the 737 NG and the 737 MAX would be especially important to the FAA AEG for purposes of its publication of the 737 MAX FSB Report and the FAA AEG's differences-training determination.<sup>36</sup>

### III. Overview of Boeing's Conspiracy to Defraud the FAA AEG

37. From at least in and around November 2016 through at least in and around December 2018, Boeing, through Forkner and other Boeing employees, knowingly, and with intent to defraud, conspired to defraud the FAA AEG. These actions took place principally in and around the Boeing Everett Factory in Everett, Washington, located in the Western District of Washington.<sup>37</sup>

38. At all times during the conspiracy, Forkner and other Boeing employees were acting within the scope of their employment and with the intention, at least in part, to benefit Boeing. The purpose of Boeing's conspiracy was to defraud the FAA AEG by impairing, obstructing, defeating, and interfering with the lawful function of the FAA AEG by dishonest means in connection with its publication of the 737 MAX FSB Report and its differences-training determination for the Boeing 737 MAX, to bring about a financial gain for Boeing and to benefit Forkner and other Boeing employees in connection with the Boeing 737 MAX.<sup>38</sup>

39. As a result, Boeing's conspiracy impeded the FAA's ability to ensure the safety of the flying public—specifically, passengers and crew who flew on Boeing 737 MAX aircraft.<sup>39</sup>

### IV. Lead-Up to the Conspiracy and Scheme to Defraud

#### *A. Boeing's Financial Incentive to Secure No Greater than "Level B" Differences Training in the 737 MAX FSB Report*

40. Boeing knew that "Level B" (computer-based) differences training would be significantly less expensive for its airline customers than "Level D" (simulator-based) differences training. A pilot could complete "Level B" differences training from anywhere in the world in a matter of hours using a computer or tablet, while in contrast, a pilot could complete "Level D" differences training only by appearing in person wherever the pilot's airline operated a full-flight simulator. Apart from the cost of acquiring one or more multimillion-dollar simulators and other related expenses, airlines that were required by the FAA AEG to train pilots on a full-flight simulator could also lose revenue that the pilot might otherwise have generated from flying airline passengers during that time. Accordingly, if the FAA AEG required a less rigorous level—such as

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<sup>36</sup> SOF at ¶ 15.

<sup>37</sup> SOF at ¶ 16.

<sup>38</sup> SOF at ¶ 17.

<sup>39</sup> U.S. Dep't of Justice, Office of Public Affairs, Press Release: Boeing Charged with 737 MAX Fraud Conspiracy (Jan. 7, 2021) <https://www.justice.gov/opa/pr/boeing-charged-737-max-fraud-conspiracy-and-agrees-pay-over-25-billion>.

“Level B”—of differences training in the 737 MAX FSB Report, the 737 MAX would be a more attractive option for Boeing’s airline customers already flying the 737 NG. Rather than switching to an entirely new airplane, like the A320neo, Boeing’s airline customers would save significant money in pilot-training costs by simply transitioning to the 737 MAX.<sup>40</sup>

41. Principally for this financial reason, one of Boeing’s stated objectives in designing the 737 MAX was to ensure that the FAA AEG would not require differences training greater than “Level B” in the 737 MAX FSB Report. Forkner and Boeing Employee-2 understood the critical importance of this objective to their employer. In or around November 2014, Boeing Employee-2 wrote in an internal Boeing electronic chat communication to Forkner that “nothing can jepordize [sic] level b[.]” In or around December 2014, Forkner wrote in an email to another Boeing employee that “if we lose Level B [it] will be thrown squarely on my shoulders. It was [Forkner], yes [Forkner]! Who cost Boeing tens of millions of dollars!”<sup>41</sup>

42. While less rigorous training requirements would benefit its customers’ bottom lines, Boeing also had overwhelming financial incentive to ensure that FAA regulators did not require simulator training for the 737 MAX. For instance, under a contract signed in December 2011 with Southwest Airlines, the U.S. launch customer for the 737 MAX, Boeing committed to discounting the price of each 737 MAX airplane it delivered to Southwest by at least \$1 million if the FAA were to require simulator training for pilots transitioning from the 737 NG.<sup>42</sup>

43. At that time, Southwest had 200 firm orders for the MAX with the option to purchase an additional 191 MAX aircraft. Thus, if Boeing failed to obtain a maximum of Level B (computer-based) training requirements from the FAA, it would have been obligated to pay Southwest between \$200 and \$400 million.<sup>43</sup>

44. More than any other program objective, Boeing’s determination to avoid simulator training requirements had an incredibly significant cascading effect on the 737 MAX program that undermined the safety of the flying public.<sup>44</sup>

45. Boeing was not simply pushing hard to obtain Level B pilot training; it was blurring the lines between what it “hoped” the FAA would determine and the FAA’s actual decision. In 2014, for instance, Boeing provided marketing materials to potential airline customers that contained slides stating conclusively that pilot training requirements would be “limited to Level B Training only.” The slides only included a small note indicating that this was “pending 737 MAX certification.”<sup>45</sup>

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<sup>40</sup> SOF at ¶ 18.

<sup>41</sup> SOF at ¶ 19.

<sup>42</sup> 2020 House Comm. Rep. at 24.

<sup>43</sup> 2020 House Comm. Rep. at 24.

<sup>44</sup> 2020 House Comm. Rep. at 141.

<sup>45</sup> 2020 House Comm. Rep. at 145 (citing Boeing slide presentation to Ethiopian Airlines, “Subject: 737MAX, 777X & 787-9 Executive Review,” March 4, 2014, BATES Number TBC-T&I001999-002000, 002018, at TBC-

46. In a May 2020 interview with investigators from the U.S. House Committee on Transportation & Infrastructure, Michael Teal, the former Chief Project Engineer for the 737 MAX program and a Boeing Vice President, claimed that he did not believe MCAS had any impact on pilot training requirements. “I don’t recall the MCAS ever being a concern associated with level B training,” he said.<sup>46</sup>

47. But Mr. Teal’s statement does not square with the facts. In May 2013, Mr. Teal sent an email to senior leaders on the MAX team regarding significant risk issues with the airplane. The email very specifically tied the inclusion of MCAS in the aircraft to potentially jeopardizing Boeing’s goal of obtaining Level B training. Specifically, the email said: “Differences Pilot Training: Ensuring that the level of change on the MAX keeps the Differences training to 16 hours or less of Level B training. Concerns include the impact of the resolution of 25.1322 trade and the Autopilot roll saturation change driven by the addition of MCAS to the flight controls system.”<sup>47</sup>

48. In the same May 2020 interview with House investigators, Mr. Teal said he could not recall having concerns about MCAS but could recall having a concern that the Roll Control Alerting System (RCAS) on the airplane “potentially had the act of requiring higher than level B training.” Yet a little more than two weeks after Mr. Teal sent his May 2013 email about MCAS and “pilot differences training,” several Boeing employees had a meeting to specifically discuss MCAS and the impact it could have on pilot training and certification requirements for the 737 MAX aircraft<sup>48</sup>

49. An email summarizing the meeting discussed in the previous paragraph said, “If we emphasize MCAS is a new function there may be greater certification and training impact.”<sup>49</sup>

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T&I002018, accessed at p. 126 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>).

<sup>46</sup> House Comm. Rep. at 149 (citing Committee staff transcribed interview of Michael Teal, former Vice President, Chief Project Engineer and Deputy Program Manager of the 737 MAX program, Boeing Commercial Airplanes, May 11, 2020.).

<sup>47</sup> 2020 House Comm. Rep. at 149-50 (noting that this is a reference to the FAA’s Advisory Circular number 25.1322-1 on “Flightcrew Alerting” that provides guidance for showing compliance with certain requirements of Title 14 of the Code of Federal Regulations (14 CFR), part 25, for the design approval of flightcrew-alerting functions. See “Subject: Flightcrew Alerting,” Advisory Circular, AC No: 25.1322-1, Federal Aviation Administration, Department of Transportation, December 13, 2010, accessed here:

[https://www.faa.gov/documentLibrary/media/Advisory\\_Circular/AC\\_25.1322-1.pdf](https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_25.1322-1.pdf)); 2020 House Comm. Rep. at 150 (citing Boeing internal email from former 737MAX Chief Project Engineer to Boeing Commercial Airplanes (BCA) Senior Chiefs and Functional Leaders, “Subject: 737MAX Firm Configuration Status/Help Needed,” Sent: May 4, 2013, 11:35:58 AM, BATES Number TBC-T&I049683-049684 (on file with the House Transportation Committee)).

<sup>48</sup> 2020 House Comm. Rep. at 150 (citing Committee staff transcribed interview of Michael Teal, former Vice President, Chief Project Engineer and Deputy Program Manager of the 737 MAX program, Boeing Commercial Airplanes, May 11, 2020); 2020 House Comm. Rep. at 150 (citing Boeing “ITRACS” report, “Title: MCAS/Speed Trim,” 37MAXFCI-PDR\_AI22, Item entered: May 21, 2013, Item closed: June 27, 2013, BATES Number TBC-T&I 549172 – 549173 (on file with House Transportation Comm.)).

<sup>49</sup> 2020 House Comm. Rep. at 150 (citing Boeing internal email, “Subject: PRG – 37MAXFCI-PDR\_AI22 – MCAS/Speed Trim,” June 7, 2013, 9:13:10 PM, accessed at p. 93 here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>).

50. In July 2014, more than two years before the FAA would complete its pilot training evaluations for the 737 MAX, Boeing boldly claimed in a press release that no simulator training would be required for pilots transitioning to the new airplane. As an indication of how unusual Boeing's statement was, a Rockwell Collins official emailed the FAA in April 2015 to inquire if Boeing had some level of agreement from the FAA that would allow it to make this claim. The FAA had not, in fact, made any agreements with Boeing and would not establish its final position on MAX pilot training requirements for two more years.<sup>50</sup>

51. Despite that reality, Boeing's July 2014 press release said there would only be a "short differences training course for" pilots transitioning from the 737 NG to the 737 MAX. "Pilots already certified on the Next-Generation 737 will not require a simulator course to transition to the 737 MAX," the press release claimed. There was no caveat in the press release informing the public that the FAA had not yet made that decision.<sup>51</sup>

*B. The Maneuvering Characteristics Augmentation System ("MCAS")*

52. To achieve its promised fuel efficiency, the 737 MAX was fitted with larger engines than the 737 NG. The larger size of the engines required that they be placed higher up and farther forward under the airplane's wings than in the prior Boeing 737 model, which caused the aerodynamics of the 737 MAX to differ from those of the 737 NG.<sup>52</sup>

53. The different aerodynamics created a new handling characteristic for the 737 MAX that caused the 737 MAX's nose to pitch up during a certain flight maneuver called a high-speed wind-up turn. A high-speed wind-up turn generally involves sharply turning the airplane at high speed (approximately Mach 0.6-0.8) in a corkscrew-like pattern.<sup>53</sup>

54. A high-speed wind-up turn was a "certification" maneuver—that is, a maneuver outside the limits of what the 737 MAX would be expected to encounter during a normal commercial passenger flight. Nevertheless, if Boeing did not fix the 737 MAX's tendency to pitch-up in high-speed wind-up turns, the FAA could determine that the 737 MAX did not meet U.S. federal airworthiness standards and could decline to certify the airplane.<sup>54</sup>

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<sup>50</sup> 2020 House Comm. Rep. at 145-46 (citing "Boeing Selects Supplier for 737 MAX Full-Flight Simulator," Boeing News Release, July 11, 2014, accessed here: <https://boeing.mediaroom.com/2014-07-11-Boeing-Selects-Supplier-for-737-MAX-Full-Flight-Simulator>); 2020 House Comm. Rep. at 145-46 (citing Rockwell Collins email to FAA, "Subject: 737 MAX training question," Sent: Wednesday, April 29, 2015, 7:12 AM, BATES Number FAA-DEFAZIO-000032886, accessed at p. 230 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>).

<sup>51</sup> 2020 House Comm. Rep. at 146 (citing "Boeing Selects Supplier for 737 MAX Full-Flight Simulator," The Boeing Company, July 11, 2014, accessed here: <https://boeing.mediaroom.com/2014-07-11-Boeing-Selects-Supplier-for-737-MAX-Full-Flight-Simulator>).

<sup>52</sup> SOF at ¶ 20.

<sup>53</sup> SOF at ¶ 21.

<sup>54</sup> SOF at ¶ 22.

55. To remedy this pitch-up characteristic, Boeing created a control law called MCAS and incorporated it into the 737 MAX's flight control computer. The MCAS operated by collecting data from one of two sensors installed on the airplane's fuselage called angle-of-attack (AOA) sensors. If the active AOA sensor were to register that the airplane's AOA was too high and a stall was imminent, the MCAS would activate and automatically nudge the airplane's nose down by adjusting the 737 MAX's horizontal stabilizer (a small movable control surface located on the airplane's tail section.).<sup>55</sup>

56. MCAS was an aircraft "part" within the meaning of Title 18, United States Code, Sections 31(a)(7) and 38.<sup>56</sup>

57. The MCAS software was also embedded in computer-based flight control hardware within the Boeing 737 MAX's flight control panel. The flight control panel is an aircraft "part" within the meaning of Title 18, United States Code, Sections 31(a)(7) and 38.<sup>57</sup>

58. As originally designed, MCAS could only activate under extremely rare flight conditions outside the normal operating envelope, like the high-speed wind-up turn.<sup>58</sup>

*C. Forkner and Other Boeing Employees Tell the FAA AEG that MCAS is Limited to High-Speed Wind-Up Turns*

59. In or around June 2015, Forkner and other Boeing employees briefed the FAA AEG on MCAS. During this briefing, Boeing described MCAS as a system that could only activate during a high-speed wind-up turn. After the briefing, Forkner and another Boeing employee further discussed MCAS with an FAA AEG employee ("FAA AEG Employee-1") and reiterated to FAA AEG Employee-1 the limited operational scope of MCAS.<sup>59</sup>

*D. Boeing Subsequently Expands MCAS's Operational Scope Beyond High-Speed Wind-Up Turns*

60. After the June 2015 meeting, Boeing engineers expanded MCAS's operational scope, significantly altering its original design. Among other things, when the airplane's active sensor registered a high angle of attack, the speed range within which MCAS could activate was expanded from approximately Mach 0.7-0.8 to approximately Mach 0.2-0.8. While MCAS previously could only activate in high-speed flight, it could now activate in nearly the entire speed range for the 737 MAX, including low-speed flight, which generally occurs at lower altitudes and in and around takeoff and landing.<sup>60</sup>

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<sup>55</sup> SOF at ¶ 23.

<sup>56</sup> SOF at ¶ 23. Because both Boeing and the Government have stipulated to this fact, it is an agreed fact for purposes of this litigation.

<sup>57</sup> SOF at ¶ 23. Because both Boeing and the Government have stipulated to this fact, it is an agreed fact for purposes of this litigation.

<sup>58</sup> SOF at ¶ 23.

<sup>59</sup> SOF at ¶ 24.

<sup>60</sup> SOF at ¶ 25.



61. Boeing apparently disclosed this expansion to FAA personnel, but only to those personnel who were responsible for determining whether the 737 MAX met U.S. federal airworthiness standards. Boeing did not disclose the MCAS expansion to the FAA AEG personnel responsible for publishing the 737 MAX FSB Report and making the pilot training determination.<sup>61</sup>

62. The expansion of MCAS made the system vulnerable to improper activation if a damaged AOA sensor were to feed erroneous AOA data to the airplane. Prior to the expansion, erroneous AOA data would only trigger MCAS within a very narrow range, far outside the normal operating envelope. After the expansion, MCAS was operable at all loads and down to .2 Mach, well within the 737 MAX's normal operating range during commercial flights.<sup>62</sup>

*E. Boeing Advocates for the FAA AEG to Publish the 737 MAX FSB Report with No Greater than "Level B" Differences Training*

63. On or about August 16, 2016, before the FAA AEG published the 737 MAX FSB Report, the FAA AEG issued a provisional "Level B" differences-training determination for the 737 MAX. At the time of this provisional determination, the FAA AEG was unaware that Boeing had expanded MCAS's operational scope.<sup>63</sup>

64. On or about the same day, Forkner recognized Boeing's achievement in an email to Boeing employees, including Boeing Employee-2, and wrote that the FAA AEG's provisional determination "culminates more than 3 years of tireless and collaborative efforts across many business units" and that the 737 MAX program management "is VERY happy."<sup>64</sup>

65. As Forkner and Boeing Employee-2 knew, the FAA AEG based its provisional "Level B" differences training for the 737 MAX in part on its misunderstanding that MCAS could only activate far outside the normal operating envelope of a commercial flight.<sup>65</sup>

66. Forkner and Boeing Employee-2 also understood, as Forkner acknowledged in his email on or about August 16, 2016, that the FAA AEG's "Level B" differences determination for the 737 MAX was only a "provisional approval [. . .] assuming no significant systems changes to the airplane."<sup>66</sup>

67. In an email to Boeing employees, including Boeing Employee-2, discussing a potential change to another part of the 737 MAX's flight controls on or about November 10, 2016, Forkner emphasized that "[o]ne of the Program Directives we were given was to not create any differences [. . .]. This is what we sold to the regulators who have already granted us the Level B

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<sup>61</sup> SOF at ¶ 25.

<sup>62</sup> 2020 House Comm Rep. at 107.

<sup>63</sup> SOF at ¶ 26.

<sup>64</sup> SOF at ¶ 27.

<sup>65</sup> SOF at ¶ 28.

<sup>66</sup> SOF at ¶ 29.

differences determination. To go back to them now, and tell them there is in fact a difference [. . .] would be a huge threat to that differences training determination.”<sup>67</sup>

*F. Concerns of the FAA about Boeing's Pressure Tactics*

68. For its part, the FAA's Seattle Aircraft Evaluation Group (AEG) recognized that the 737 MAX was a complex modification to Boeing's predecessor model airplane, the 737 NG, that incorporated many “substantial systems changes due to new certification requirements.”<sup>68</sup>

69. In a May 10, 2015, internal FAA email concerning this issue, an official in the Seattle AEG responsible for determining pilot training requirements wrote that “[t]he B737MAX presents some very contentious issues between Boeing and the FAA that will likely heat-up as we approach rollout and evaluation of the aircraft.”<sup>69</sup>

70. Further, this official said, “[w]e have reason to believe that Boeing's assessment of B Level training differences (Computer Based Training) between the MAX and NG will be insufficient.”<sup>70</sup>

71. Attached to that 2015 email, the AEG official included a memorandum that outlined the AEG's concerns regarding the possible need for simulator training on the 737 MAX as a result of several planned systems that were to be included on the aircraft.<sup>71</sup>

72. The memo listed six separate systems that could require increased pilot training requirements. These included Fly-by-wire (FBW) Spoilers, Direct Lift Control, Landing Attitude Modifier (LAM), Roll Command Alerting System (RCAS), Max Display System, and Environmental Control System (ECS). Interestingly, MCAS was not listed.<sup>72</sup>

73. The AEG had serious concerns about Boeing's aggressive and contentious efforts to avoid simulator training on the MAX, but in 2015 the AEG's focus was on other systems on the aircraft and not MCAS. This was because Boeing had made a point to describe MCAS to regulators

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<sup>67</sup> SOF at ¶ 30.

<sup>68</sup> FAA Memorandum, From: Seattle Aircraft Evaluation Group (SEA-AEG), To: Flight Standards, “Subject: Boeing 737 MAX Type Rating Determination and Pilot Training Requirements,” May 10, 2015, BATES Number, FAA-DEFAZIO-000032887-32890, accessed at p.231 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>

<sup>69</sup> FAA internal email, “Subject: RE: 737 MAX training question,” Sent: May 10, 2015, 1:44 PM, BATES Number FAA-DEFAZIO-000032884, accessed at p. 228 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>

<sup>70</sup> *Id.*

<sup>71</sup> FAA Memorandum, From: Seattle Aircraft Evaluation Group (SEA-AEG), To: Flight Standards, “Subject: Boeing 737 MAX Type Rating Determination and Pilot Training Requirements,” May 10, 2015, BATES Number, FAA-DEFAZIO-000032887-32890, accessed at p.231 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>

<sup>72</sup> *Id.*; 2020 House Comm. Rep. at 151.



as merely an addition to the Speed Trim System. This, along with the original capabilities of MCAS prior to its expansion, did not give the AEG officials much pause.<sup>73</sup>

## V. The Boeing Conspiracy Crime Begins

### A. “Shocker Alert”: Forkner and Boeing Employee-2 Discover MCAS’s Expanded Operational Scope

74. Contrary to what Boeing disclosed to the FAA, the 737 MAX’s flight control computer contained a deadly feature: the MCAS had the ability to trigger repeated automatic flight control movements at low speeds that could place the airplane into a dangerous nose-down attitude and dramatically interfere with the pilots’ ability to control the aircraft.<sup>74</sup>

75. On or about November 15, 2016, during a simulator test flight of the 737 MAX, Forkner experienced what he recognized as MCAS operating at lower speeds. He further recognized that this low-speed operation was different from what Boeing had briefed and described to the FAA AEG.<sup>75</sup>

76. On or about the same day, Forkner and Boeing Employee-2 discussed MCAS in an internal Boeing electronic chat communication, writing in part:

Boeing Employee-1: Oh shocker alert! [sic] / MCAS is now active down to [Mach] .2 / It’s running rampant in the sim on me / at least that’s what [a Boeing simulator engineer] thinks is happening

Boeing Employee-2: Oh great, that means we have to update the speed trim description in vol 2

Boeing Employee-1: so I basically lied to the regulators (unknowingly)

Boeing Employee-2: it wasn’t a lie, no one told us that was the case.<sup>76</sup>

77. At this point, Forkner and Boeing Employee-2 recognized that the FAA AEG was under the misimpression that MCAS was inoperable at lower Mach ranges, such as at Mach 0.2. Forkner and Boeing Employee-2 therefore knew, at least as of the time of this chat communication, that the FAA AEG’s provisional “Level B” differences-training determination had been based in part on outdated and inaccurate information about MCAS.<sup>77</sup>

78. Forkner and Boeing Employee-2 also knew that MCAS’s expanded operational scope was relevant to the FAA AEG’s safety decisions contained in the 737 MAX FSB Report, including pilot training requirements and whether to include information about MCAS in the operating and

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<sup>73</sup> 2020 House Comm. Rep. at 151.

<sup>74</sup> 2020 House Comm. Rep. at 8.

<sup>75</sup> SOF at ¶ 31.

<sup>76</sup> SOF at ¶ 32.

<sup>77</sup> SOF at ¶ 33.

pilot training manuals. Forkner and Boeing Employee-2 similarly understood that it was their responsibility to update the FAA AEG about any relevant changes to the 737 MAX's flight controls—such as MCAS's expanded operational scope.<sup>78</sup>

79. Despite knowing that the FAA AEG had issued its provisional “Level B” determination without any awareness that MCAS's operational scope had been expanded to include conditions within the normal operating envelope, including nearly the entire speed range of ordinary commercial flight, Forkner and Boeing Employee-2 did not correct the FAA AEG's (mis)understanding of MCAS's operational scope or otherwise ensure that the FAA AEG's “Level B” determination was based on an accurate understanding of MCAS's operation. Instead, Boeing—through Forkner and Boeing Employee-2—intentionally withheld and concealed from the FAA AEG its knowledge of MCAS's true capabilities.<sup>79</sup>

*B. Boeing, through Forkner and Boeing Employee-2, Deceives the FAA AEG about MCAS's Operational Scope and Tells the FAA AEG to Delete MCAS from the 737 MAX FSB Report*

80. Boeing did not want the FAA AEG to know about MCAS's true capabilities, so it deceived the FAA AEG about MCAS's broad operational scope.<sup>80</sup>

81. Shortly after the simulated test flight described above, Forkner spoke to FAA AEG Employee-1, who asked Forkner about the simulated test flight. Forkner intentionally withheld and concealed from FAA AEG Employee-1 the fact that MCAS's operational scope had been expanded beyond what the FAA AEG relied upon when it issued its provisional “Level B” differences-training determination for the 737 MAX.<sup>81</sup>

82. Around the time that Forkner and Boeing Employee-2 discussed MCAS's expanded operational scope, Forkner asked a Boeing senior engineer assigned to the 737 MAX program about MCAS's operational scope. The senior engineer confirmed to Forkner that MCAS was operable beyond the limited operational scope of a high-speed wind-up turn. The senior engineer suggested that Forkner contact certain subject-matter experts at Boeing for more specific information about MCAS's operational scope.<sup>82</sup>

83. On or about November 17, 2016, the FAA AEG emailed three Boeing employees, including Forkner, Boeing Employee-2, and another Boeing employee, a draft of the forthcoming 737 MAX FSB Report. The same day, Forkner asked Boeing Employee-2 and the other Boeing employee to review the draft 737 MAX FSB Report “for any glaring issues.”<sup>83</sup>

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<sup>78</sup> SOF at ¶ 34.

<sup>79</sup> SOF at ¶ 35.

<sup>80</sup> SOF at ¶ 36.

<sup>81</sup> SOF at ¶ 36.

<sup>82</sup> SOF at ¶ 37.

<sup>83</sup> SOF at ¶ 38.

84. On or about November 22, 2016, the other Boeing employee emailed the draft 737 MAX FSB Report back to the FAA AEG with proposed edits. Forkner and Boeing Employee-2 were included on the email. Forkner suggested that the AEG delete a reference to MCAS, and wrote, “We agreed not to reference MCAS since it’s outside normal operating envelope.” Neither Forkner nor Boeing Employee-2 shared the fact that MCAS’s operational scope had been expanded or otherwise corrected the FAA AEG’s misimpression that MCAS’s operational scope was limited to high-speed wind-up turns.<sup>84</sup>

85. In doing so, Forkner and Boeing Employee-2 deceived the FAA AEG into believing that the basis upon which the FAA AEG had initially “agreed” to remove any information about MCAS from the 737 MAX FSB Report—that MCAS could only activate during a very limited operational scope—remained the same. Forkner and Boeing Employee-2 purposely withheld their knowledge of MCAS from the FAA AEG to avoid risking the FAA AEG taking any action that could threaten the differences-training determination for the 737 MAX.<sup>85</sup>

86. On or about January 17, 2017, Forkner again reminded the FAA AEG in an email to delete any reference to MCAS from the forthcoming 737 MAX FSB Report, and wrote, “Flight Controls: Delete MCAS, recall we decided we weren’t going to cover it [. . .] since it’s way outside the normal operating envelope.” Again, Forkner deceived the FAA AEG into believing that the basis upon which the FAA AEG had initially “decided” to remove any information about MCAS from the 737 MAX FSB Report—that MCAS could only activate during the limited operational scope of a high-speed wind-up turn—remained the same.<sup>86</sup>

87. By concealing MCAS’s expanded operational scope from the FAA AEG, Boeing, through its employees, defrauded, impaired, obstructed, defeated, and interfered with the FAA AEG’s lawful function.<sup>87</sup>

88. As part of its conspiracy, Boeing withheld crucial information about MCAS from its airline customers, 737 MAX pilots, and the FAA.<sup>88</sup>

89. As part of its conspiracy, Boeing concealed the very existence of MCAS from 737 MAX pilots.<sup>89</sup>

90. As part of its conspiracy, Boeing worked to obtain the removal of any and all references to MCAS from Boeing’s Flight Crew Operations Manual (FCOM)—a document that provides procedures, performance, and systems information to flight crews to enable the safe and efficient operation of the airplane. As a direct result, 737 MAX pilots around the world were

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<sup>84</sup> SOF at ¶ 39.

<sup>85</sup> SOF at ¶ 40.

<sup>86</sup> SOF at ¶ 41.

<sup>87</sup> SOF at ¶ 42.

<sup>88</sup> 2020 House Comm. Rep. at 13.

<sup>89</sup> 2020 House Comm. Rep. at 13.

precluded from knowing about the existence of MCAS and its potential effect on aircraft handling in the event of an erroneous activation.<sup>90</sup>

91. As part of its conspiracy, Boeing kept any substantive references to MCAS from appearing in pilot training materials for the 737 MAX.<sup>91</sup>

*C. The FAA Promulgates Inadequate Pilot Training Standards for Addressing Erroneous MCAS Activation Due to Boeing's Conspiracy*

92. Based on Boeing's misleading statements, half-truths, and omissions to the FAA AEG about MCAS, and in reliance on those statements and omissions, the FAA AEG agreed to delete all references to MCAS from the 737 MAX FSB Report.<sup>92</sup>

93. Boeing's misleading statements, half-truths, and omissions to the FAA were designed to guarantee that the FAA did not require flight simulator training for pilots transitioning from the 737 NG to the 737 MAX—a key Boeing objective and primary selling point for the 737 MAX.<sup>93</sup>

94. Boeing's objective of avoiding Level D simulator training demanded that pilot differences training be kept to 16 hours or less of Level B (non-simulator) training requirements.<sup>94</sup>

95. Ultimately, as a direct result of Boeing's misleading statements, half-truths, and omissions (i.e., its conspiracy to deceive the FAA), the FAA only required Level B computer-based training for the MAX that could be quickly completed in approximately two hours rather than Level D flight simulator training.<sup>95</sup>

96. Obtaining Level B training must have come as a tremendous relief to Mr. Forkner. It is clear from emails and instant messages obtained from Boeing that Mr. Forkner was under tremendous pressure to ensure that Boeing achieved a Level B training determination on the MAX. In a December 2014 email to a Boeing colleague, 20 months before the FAA's decision on the MAX's training requirements, Mr. Forkner expressed concerns that he would be held personally

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<sup>90</sup> 2020 House Comm. Rep. at 20.

<sup>91</sup> 2020 House Comm. Rep. at 20.

<sup>92</sup> SOF at ¶ 43.

<sup>93</sup> 2020 House Comm. Rep. at 139 (citing Committee staff transcribed interview of Michael Teal, former Vice President, Chief Project Engineer and Deputy Program Manager of the 737 MAX program, Boeing Commercial Airplanes, May 11, 2020).

<sup>94</sup> 2020 House Comm. Rep. at 139 (citing Boeing internal email from former 737MAX Chief Project Engineer to Boeing Commercial Airplanes (BCA) Senior Chiefs and Functional Leaders, "Subject: 737MAX Firm Configuration Status/Help Needed," Sent: May 4, 2013, 11:35:58 AM, BATES Number TBC-T&I049683-049684. (On file with the Committee)).

<sup>95</sup> 2020 House Comm. Rep. at 26 ((citing "FAA Responses to Follow-Up Questions from House T&I Staff," Sent: September 6, 2019, BATES Number FAA- T&I-000031938 – 000031939. (On file with the Committee)).

responsible by Boeing's leadership for the financial consequences of not obtaining Level B training. "[I]f we lose Level B," he wrote, the blame "will be thrown squarely on my shoulders."<sup>96</sup>

97. Mr. Forkner's emails and instant messages show how closely intertwined the Level B training goal was with technical decision-making that could potentially affect the training determination. In July 2014, for instance, the Level B training goal overshadowed discussions Mr. Forkner had with a colleague concerning the development of pilot checklists for the Flight Crew Training Manual. Regarding specific checklists they were developing, Mr. Forkner advised that they follow "the path with the least risk to Level B" and "sell" a complex action pertaining to trim technique as a "very intuitive basic pilot skill."<sup>97</sup>

98. Mr. Forkner's colleague cautioned: "I fear that skill is not very intuitive any more with the younger pilots and those who have become too reliant on automation."<sup>98</sup>

99. Mr. Forkner responded: "Probably true, but it's the box we're painted into with the Level B training requirements."<sup>99</sup>

100. The pressure to achieve Level B training also was evident in Mr. Forkner's disdain for the FAA AEG, the group that would ultimately determine training requirements. In May 2015, Mr. Forkner derided the AEG in instant messages with a Boeing colleague in which he described a briefing to the AEG on the 737 MAX: "[I]t was like dogs watching TV for the AEG (and me too) curves, slopes, graphs, blah blah blah, stuff non-engineers and test pilots can't really understand other than the lines all line up between max and NG, which is supposed to prove they fly the same."<sup>100</sup>

101. Mr. Forker knew he had no other option but to achieve Level B differences training for the 737 MAX. In November 2015, Mr. Forkner wrote in an email about the need to "push back very hard" against the AEG regarding potential simulator training requirements and predicted that he "will likely need support at the highest levels" at Boeing in negotiating with the FAA regarding

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<sup>96</sup> Boeing internal email, "Subject: RE: Tomorrow," December 18, 2014, 12:28:37 PM, accessed at p. 6 here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>97</sup> 2020 House Comm. Rep. at \_\_\_ (citing Boeing internal email, "Subject: RE: RCAS testing of training," Sent: Tuesday, July 22, 2014, 8:27 PM, p. 3-4)

<sup>98</sup> Boeing internal email, "Subject: RE: RCAS testing of training," Sent: Wednesday, July 23, 2014, 7:11 AM, p. 3, accessed here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>99</sup> Boeing internal email, "Subject: RE: RCAS testing of training," Sent: July 23, 2014, 7:43:41 PM, p. 3, accessed here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>100</sup> Instant Message from 737 Chief Technical Pilot to Boeing staff, Sent: May 29, 2015, 8:08 AM, BATES Number: TBC-T&I 549002 (On file with the Committee).

such requirements for the 737 MAX's Roll Command Alerting System (RCAS). "Failure to obtain Level B training for RCAS is a planet-killer for the MAX," wrote Mr. Forkner.<sup>101</sup>

## **VI. The Boeing Conspiracy Crime Produces Direct and Worldwide Effects**

### *A. The FAA AEG Publishes the 737 MAX FSB Report Without Any Information about MCAS and Requires No Greater than "Level B" Differences Training*

102. As a direct result of Boeing's conspiracy crime, on or about July 5, 2017, the FAA AEG published the first 737 MAX FSB Report, which included the FAA AEG's "Level B" differences training determination for the 737 MAX.<sup>102</sup>

103. As a direct result of Boeing's conspiracy of intentional withholding of information from the FAA AEG, the final version of the 737 MAX FSB Report lacked critical information about MCAS, and as a result, relevant portions of the 737 MAX FSB Report were materially false, inaccurate, and incomplete.<sup>103</sup>

104. If the FAA AEG had known about the true capabilities of MCAS, it would have required that MCAS be included in the 737 MAX's operating manual and pilot training materials and mandated pilots to undergo Level D simulator-based differences training.<sup>104</sup>

### *B. Boeing's Conspiracy Directly Produces Inadequate Training Materials*

105. The FAA approved Level B computer-based training for the MAX which was utterly inadequate to provide guidance to 737 MAX pilots on how to address an erroneous MCAS activation.<sup>105</sup>

106. The FAA's determination that Level B training was sufficient was based on the false information about MCAS's operational scope that Boeing provided to the FAA.<sup>106</sup>

107. The fact that pilots flying the Boeing 737 MAX had only received computer-based training with no mention of MCAS placed anyone flying on a 737 MAX at a serious increased risk of death from a crash caused by an erroneous MCAS activation.<sup>107</sup>

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<sup>101</sup> Boeing internal email, "Subject: RE: !!! Important Help Needed!!!EASA RSAT/RCAS ECD dates," Sent: Tuesday, November 17, 2015, 2:21 PM, p. 90, accessed here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>102</sup> SOF at ¶ 45.

<sup>103</sup> SOF at ¶ 46.

<sup>104</sup> *United States v. Forkner*, Case 4:21-cr-268-O, Dkt. 137 at 3 (N.D. Tex. Feb. 28, 2022); Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>105</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton.

<sup>106</sup> SOF at ¶ 46; Anticipated expert testimony of 737 MAX pilot Vickie Norton.

<sup>107</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; anticipated expert testimony of Dr. Rune Storesund.



108. From in or around January 2017 through in or around July 2017 (when the 737 MAX FSB Report was published), Forkner and other Boeing employees sent emails to representatives of various Boeing airline customers that had agreed to purchase the 737 MAX. In these emails, Forkner, Boeing Employee-2, and members of the 737 MAX Flight Technical Team referenced and provided drafts of the forthcoming 737 MAX FSB Report and airplane manuals and pilot-training materials for the 737 MAX. None of these items contained any mention of MCAS, consistent with Forkner's efforts to deceive the FAA AEG into deleting all references to the system.<sup>108</sup>

109. As a direct result of Boeing's conspiracy of intentional withholding of information from the FAA AEG, the 737 MAX operating manuals and pilot training materials lacked critical information about MCAS, and the relevant portions of these manuals and materials were materially false, inaccurate, and incomplete.<sup>109</sup>

110. After the FAA AEG published the final version of the 737 MAX FSB Report, Boeing continued to sell, and Boeing's U.S.-based airline customers were permitted to fly, the 737 MAX. Pilots flying the 737 MAX for Boeing's airline customers, both foreign and domestic, were not provided any information about MCAS in their airplane operating manuals or pilot-training materials.<sup>110</sup>

111. The FAA AEG remained unaware of Boeing's March 2016 expansion of MCAS before the Lion Air crash in October 2018.<sup>111</sup>

112. Had the AEG known of MCAS's true operational abilities prior to certification, it would have altered its assessment of the aircraft's pilot training requirements.<sup>112</sup>

113. The FAA mandated Level D simulator-based training only after the Ethiopian Airlines flight 302 disaster, when the true capabilities of MCAS became known.<sup>113</sup>

114. In the FAA AEG's May 2015 memorandum concerning the effect of the MAX's new systems on training requirements, the AEG stressed that although Boeing had been consistently

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<sup>108</sup> SOF at ¶ 44.

<sup>109</sup> SOF at ¶ 46; Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>110</sup> SOF at ¶ 47; Anticipated expert testimony of 737 MAX pilot Vickie Norton.

<sup>111</sup> 2020 House Comm. Rep. at 151 (citing "Timeline of Activities Leading to the Certification of the Boeing 737 MAX 8 Aircraft and Actions Taken After the October 2018 Lion Air Accident," Department of Transportation, Office of Inspector General, Report No. AV2020037, June 29, 2020, pp. 21-22, accessed here: <https://www.oig.dot.gov/sites/default/files/FAA%20Oversight%20of%20Boeing%20737%20MAX%20Certification%20Timeline%20Final%20Report.pdf>).

<sup>112</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes; Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>113</sup> [https://www.faa.gov/foia/electronic\\_reading\\_room/boeing\\_reading\\_room/media/737\\_FSB\\_Report.pdf](https://www.faa.gov/foia/electronic_reading_room/boeing_reading_room/media/737_FSB_Report.pdf).

pushing for minimal Level B differences training for pilots currently qualified on the 737 NG, the FAA might have to require higher-level simulator training.<sup>114</sup>

115. The memo expressly pointed out the negative impact Boeing's goal of "no simulator training" was having on Boeing's ability to meet Federal aviation regulations. "For the past 3 years, Boeing has continually argued with the BASOO that they cannot meet the latest amendments to aircraft certification regulations due to the impact on flight crew training," the memo said.<sup>115</sup>

116. The AEG memo also laid out the AEG's concerns with Boeing's approach to training: "It is Boeing's intention not to have a task trainer or simulator to train pilots between the NG and the MAX; The SEA AEG disagrees with this assessment," the memo said.<sup>116</sup>

117. The AEG memo also pointed out: "It is common practice for the manufacturer to request minimal pilot training due to the cost impact for their customers."<sup>117</sup>

118. Despite its concerns, in the end, the FAA did not require Level D simulator-based differences training for the 737 MAX. Until the truth became known after October 18, the FAA believed that Boeing had satisfactorily resolved all its concerns.<sup>118</sup>

*C. Boeing's Conspiracy Directly Produces Worldwide Effects.*

119. The FAA's certification of the 737 MAX and the approval of Level B differences training had worldwide effects because of the deference that other countries provide to the FAA's determinations. Indeed, while the Boeing 737 MAX was being developed, one Boeing employee noted the "FAA is pretty powerful and most countries defer to what the FAA does[.]"<sup>119</sup>

120. For example, "Ethiopia accepts types certificates issued by the Federal Aviation Administration (FAA) of the United States of America."<sup>120</sup>

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<sup>114</sup> FAA Memorandum, From: Seattle Aircraft Evaluation Group (SEA-AEG), To: Flight Standards, "Subject: Boeing 737 MAX Type Rating Determination and Pilot Training Requirements," May 10, 2015, BATES Number, FAA-DEFAZIO-000032887-32890, accessed at p.231 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>

<sup>115</sup> *Id.* Note that the BASOO is the Boeing Aviation System Oversight Office based in Seattle, Washington, and is FAA's office charged with overseeing Boeing's certification compliance on all Boeing commercial aircraft.

<sup>116</sup> *Id.*

<sup>117</sup> *Id.*

<sup>118</sup> 2020 House Comm. Rep. at 152.

<sup>119</sup> Boeing internal email, "Subject: RE: Flight Transition costs," Sent: Friday, March 24, 2017, 2:41 PM accessed here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Productio.pdf> (p. 28).

<sup>120</sup> Interim Investigation Report of accident 737-8 MAX ET-AVJ, ET-302 (the "ET302 Interim Report") at 125.



121. Indonesia similarly accepts FAA's determinations under an agreement between the two countries that is intended to reduce the burdens on the aviation industry of seeking "redundant evaluations and inspections" concerning airplanes.<sup>121</sup>

122. Indonesia conducted a limited Type Certificate Validation of the Boeing 737 MAX, but the review primarily consisted of a familiarization of the airplane's systems by Boeing.<sup>122</sup>

123. Following the FAA AEG's determination that flight simulator training would not be required for pilots transitioning from the 737NG to the 737 MAX, Boeing aggressively discouraged foreign-flagged airlines from setting their own simulator training requirements.<sup>123</sup>

124. Emails from Mr. Forkner concerning Boeing's foreign airline customers show his strong opposition to simulator training. Mr. Forkner used grossly inappropriate language in emails to his peers about foreign airlines that even dared to inquire about simulator training needs their MAX pilots. Mr. Forkner also boasted that his efforts to talk airlines out of simulator training was of significant financial benefit to Boeing—demonstrating the far-reaching effects of Boeing's conspiracy.<sup>124</sup>

125. For example, in response to a March 2017 request from Boeing's Africa & Caribbean Sales Director related to an inquiry from a customer airline about costs to provide pilot training to its flight crews, Mr. Forkner wrote: "I want to stress the importance of holding firm that there will not be any type of simulator training required to transition from the NG to the MAX. Boeing will not allow that to happen. We'll go face to face with any regulator who tries to make that a requirement."<sup>125</sup>

126. As another example, in June 2017, in response to an airline that was considering simulator-based training for its pilots transitioning to the MAX, Mr. Forkner wrote in an email, "There is absolutely no reason to require your pilots to require a MAX simulator to begin flying the MAX. Once the engines are started, there is only one difference between NG and MAX procedurally, and that is that there is no OFF position of the gear handle. Boeing does not understand what is to be gained by a 3 hour simulator session, when the procedures are essentially the same."<sup>126</sup>

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<sup>121</sup>[https://www.faa.gov/aircraft/air\\_cert/international/bilateral\\_agreements/baa\\_basa\\_listing/media/IndonesiaBAA.pdf](https://www.faa.gov/aircraft/air_cert/international/bilateral_agreements/baa_basa_listing/media/IndonesiaBAA.pdf).

<sup>122</sup> See Final Aircraft Accident Report, Boeing 838-9 (MAX), PK-LQP at p. 156 describing the review process conducted by the Indonesia DGCA.

<sup>123</sup> 2020 House Comm. Rep. at 156.

<sup>124</sup> 2020 House Comm. Rep. at 156.

<sup>125</sup> Boeing internal email, "Subject: RE: Flight Transition costs," March 28, 2017, 9:00:58 AM, accessed at p. 28 here:

<https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>126</sup> Boeing email to airline customer, "Subject: RE: MAX LEVEL B DIFFERENCES SOLUTION," Sent: Tuesday, June 6, 2017, 11:01:40 AM, accessed at p. 34 and p. 60 here:

127. “A simulator training requirement would be quite burdensome to your operation,” wrote Mr. Forkner in a separate email.<sup>127</sup>

128. In a separate instant message exchange with a Boeing colleague, also in June 2017, Mr. Forkner wrote: “Now friggin Lion Air might need a sim to fly the MAX, and maybe because of their own stupidity. I’m scrambling to figure out how to unscrew this now! idiots”<sup>128</sup>

[illegible]

130. As another example, in December 2017, Mr. Forkner informed a colleague in an instant message exchange that he made a foreign airline “feel stupid about trying to require any additional training requirements.” “... I just jedi mind tricked this [sic] fools,” Mr. Forkner wrote. “I should be given \$1000 every time I take one of these calls,” he said, and then added “I save this company a sick amount of \$\$\$\$”<sup>130</sup>

131. In an email to an Indonesian airline customer, Mr. Forkner stated that “[t]he FAA, EASA, Transport Canada, China, Malaysia and Argentina [sic] authorities have all accepted the [computer-based training] requirement as the only training needed to begin flying the MAX. I’d be happy to share the operational differences presentation with you to help you understand that a MAX simulator is both impractical and unnecessary for your pilots.”<sup>131</sup>

132. It was a necessary part of Boeing's conspiracy that Lion Air and Ethiopian Airlines remain unaware as to the full scope of MCAS. If those airlines (or their pilots) had been told about

<https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>127</sup> Boeing email to airline customer, “Subject: RE: MAX LEVEL B DIFFERENCES SOLUTION,” Sent: Monday, June 5, 2017, 10:59 PM, accessed at p. 33 and p. 59 here:

<https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>

<sup>128</sup> Boeing internal instant message, Sent: June 5, 2017, 6:57 PM, BATES Number TBC-T&I 549015. (On file with the Committee).

<sup>129</sup> Boeing internal email, “Subject: RE: 737 MAX ATB/RTL FOTB,” Sent: Monday, June 5, 2017, 8:01 PM, accessed at p. 14 here:

<https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>.

<sup>130</sup> Boeing internal instant message, December 12, 2017, BATES Number TBC-T&I 549024-549025. (On file with the Committee).

<sup>131</sup> Boeing email, “Subject: RE: MAX LEVEL B DIFFERNCES [sic] SOLUTION,” Sent: Tuesday, June 6, 2017, 11:01:40 AM accessed here:

<https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf> (p. 34).

the full scope of MCAS, that information would have inevitably found its way back to the FAA—defeating the purpose of the conspiracy.<sup>132</sup>

133. The B737 FSB, one of several boards established within the AEG, makes the final determination as to the appropriate level of differences training necessary for a new variant of an existing transport category aircraft.<sup>133</sup>

134. Had the B737 FSB been provided with a complete data set with regards to the MCAS for the 737 MAX they would have determined that the changes warranted a higher level of differences training involving simulators.<sup>134</sup>

135. All operators—domestic and foreign—of 737 MAX depend on the FAA for appropriate and accurate information regarding aircraft that they approve and the training they recommend.<sup>135</sup>

136. The act of withholding critical information regarding MCAS rendered the applicable sections of the B737MAX Aircraft Flight Manual and checklists unusable.<sup>136</sup>

*D. Boeing's Conspiracy Directly Causes the FAA Not to Require Simulator-Based Training for Uncommanded MCAS Activation*

137. The FAA followed Boeing's recommendation in approving only Level B computer-based training for pilots transitioning from the 737NG to the 737 MAX. The FAA's approval of Boeing's recommendation fulfilled a longstanding and important goal that Boeing had set for the MAX program.<sup>137</sup>

138. If Boeing had not committed its crime of concealing information from the FAA AEG, the FAA would have required simulator-based differences training for pilots transitioning in the 737 MAX.<sup>138</sup>

139. Had Boeing presented to the FAA a complete, accurate, and truthful description of MCAS (e.g., operating envelope, triggers, capabilities, etc.), as well as its observed behavior in the simulator, the FAA would have mandated Level D flight simulator training for any pilots flying the 737 MAX. Level D training was ultimately required when the FAA overcame the effects of Boeing's conspiracy to deceive it and learned the true details about the operational scope of MCAS.<sup>139</sup>

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<sup>132</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes; Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>133</sup> Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>134</sup> Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>135</sup> Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>136</sup> Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>137</sup> 2020 House Comm. Rep. at 25.

<sup>138</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>139</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated testimony of Ms. Stacey Klein of the FAA.

*E. Boeing's Conspiracy Directly Caused Foreign Airlines, Including Lion Air and Ethiopian Airlines, Not to Provide Simulator-Based Training*

140. The FAA AEG's approval of merely Level B training was adhered to by every airline worldwide flying the 737 MAX, including Lion Air and Ethiopian Airlines. Neither airline required simulator training and their pilots' flight crew operating manuals and pilot training materials contained no information about the MCAS because Boeing had successfully convinced the FAA that MCAS was a mere extension of the speed trim system, would never activate within the parameters of a normal commercial flight, and pilots therefore did not need to know about MCAS' purpose and functionality.<sup>140</sup>

**VII. Boeing's Conspiracy Crime Directly Results in the Crash of Lion Air Flight 610**

*A. Factual Background Surrounding the Crash of Lion Air Flight 610*

141. On October 29, 2018, Lion Air Flight 610, a Boeing 737 MAX, crashed shortly after takeoff into the Java Sea near Indonesia. All 189 passengers and crew on board died.<sup>141</sup>

142. On Lion Air Flight 610, MCAS was erroneously triggered by a faulty AOA sensor, causing the system to "think" that the airplane was pitching up and nearing a stall. In a misguided effort to right the airplane, MCAS moved the horizontal stabilizer up, which pushed the airplane's nose down. This cycle occurred more than 20 times as the pilots fought to disengage MCAS while struggling to maintain control of the aircraft. Amid a cacophony on confusing warnings and alerts on the flight deck, the horizontal stabilizer ultimately forced the airplane into a nose-down attitude from which the pilots were unable to recover.<sup>142</sup>

143. Following the crash of Lion Air Flight 610, the Indonesian air transportation authorities (KNKT) conducted a legally authorized investigation into the crash, which produced factual findings about the crash.<sup>143</sup>

144. KNKT found that the flight manual for the Boeing 737 MAX aircraft that crashed did not include information about MCAS.<sup>144</sup>

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<sup>140</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes; Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>141</sup> SOF at ¶ 48.

<sup>142</sup> 2020 House Comm. Rep. at 9.

<sup>143</sup> See KOMITE NASIONAL KESELAMATAN TRANSPORTASI, *Aircraft Accident Investigation Report* at xviii ([http://knkt.dephub.go.id/knkt/ntsc\\_aviation/baru/2018%20-%20035%20-%20PK-LQP%20Final%20Report.pdf](http://knkt.dephub.go.id/knkt/ntsc_aviation/baru/2018%20-%20035%20-%20PK-LQP%20Final%20Report.pdf)) (hereinafter "KNKT Rep.").

<sup>144</sup> *Id.* at xviii.

145. KNKT found that the flight crew training for Lion Air Flight 610 did not include information about MCAS.<sup>145</sup>

146. KNKT found that the captain for Lion Air Flight 610 passed all checks for pilot training (including general, proficiency, line and recurrent checks).<sup>146</sup>

147. KNKT found that no information about MCAS was given in the flight crew manuals and MCAS was not included in the flight crew training. These omissions made the flight crew unaware of the MCAS and its effects. There were no procedures for mitigation in response to erroneous MCAS activation.<sup>147</sup>

148. KNKT found that Boeing and the FAA engaged in extensive discussion about the appropriate content of the 737 MAX training and manuals for a period of several years before certification. During discussions and communications with the FAA beginning in March 2016, Boeing proposed removing MCAS from the Flight Crew Operations Manual (FCOM) and differences tables associated with the 737 MAX aircraft that operated as Lion Air Flight 610.<sup>148</sup>

149. KNKT found that the effect of erroneous MCAS function was startling to the flight crew of Lion Air Flight 610.<sup>149</sup>

150. KNKT found that the lack of MCAS information in the Flight Crew Operations Manual and flight crew training resulted in it being more difficult for the Lion Air Flight 610 flight crew to diagnose the problem and find the corrective procedure to solve it. Without prior awareness of the MCAS function, would be more difficult for the flight crew to understand the problem. It would take them longer time to understand the situation and come to the correct solution, putting them at a higher risk than necessary.<sup>150</sup>

151. KNKT found that the flight crew of the previous Lion Air flight (of the same aircraft the previous day) took around 3 minutes and 40 seconds after 12 MCAS activations to come up with the solution to the problem by performing stabilizer trim cut-out, while in the accident flight Lion Air Flight 610 crew did not manage to find the solution. Therefore, KNKT concluded that the Lion Air Flight 610 crew should have been made aware of MCAS which would have provided them with awareness of the system and increased their chances of being able to mitigate the consequences of repetitive improper MCAS activations.<sup>151</sup>

152. KNKT found that even though the flight crew can provide a nose-up input on the control column and/or manual electric trim every time the MCAS activates, the MCAS software

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<sup>145</sup> *Id.* at xviii.

<sup>146</sup> *Id.* at 29.

<sup>147</sup> *Id.* at 181.

<sup>148</sup> *Id.* at 198.

<sup>149</sup> *Id.* at 199.

<sup>150</sup> *Id.* at 199.

<sup>151</sup> *Id.*

continues to work against them, making it more difficult to fully control the aircraft if column forces resulting from MCAS inputs are not completely negated by the flight crew. This condition meant that the Lion Air Flight 610 crew were running out of time to find a solution before the repetitive MCAS activations placed the aircraft into an extreme nose-down attitude that the flight crew were unable to recover from.<sup>152</sup>

153. KNKT found that flight crew training would have supported the recognition of abnormal situations and appropriate flight crew action. Boeing did not provide additional training requirements for the Boeing 737 MAX.<sup>153</sup>

*B. Boeing's Conspiracy Causes the Crash of Lion Air Flight 610*

154. Boeing's conspiracy directly resulted in the crash of Lion Air Flight 610. Put another way, "but for" Boeing's conspiracy to deceive the FAA, Lion Air Flight 610 would not have crashed.<sup>154</sup>

155. The omission of any substantive references to or description of MCAS in the 737 MAX's operating manuals and pilot training materials was an ultimate "but for" cause of the crash of Lion Air Flight 610.<sup>155</sup>

156. Boeing's intentional lack of disclosure, coupled with Boeing's false, misleading, and inaccurate description of MCAS's ultimate control authority and capabilities upon certification of the 737 MAX, also was causal to the crash of Lion Air Flight 610. These intentional falsehoods and lack of disclosure extended not only to the FAA and the international aviation community, but also to Boeing's own airline customers and, ultimately, the flying public—including the 346 victims of the two 737 MAX crashes.<sup>156</sup>

157. The complete lack of pilot training with respect to MCAS also was directly causal to the crash of Lion Air 610, because adequate training on how to address an erroneous MCAS activation would have prevented the tragedy.<sup>157</sup>

158. On October 29, 2018, at approximately 23:22:44 UTC, the MCAS system on Lion Air flight 610 improperly activated and took control of the 737 MAX aircraft. At that time, the pilots operating the aircraft had not been given training materials from Boeing disclosing the existence

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<sup>152</sup> *Id.* at 199.

<sup>153</sup> *Id.* at 199; anticipated testimony of Boeing representative.

<sup>154</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; *see also* Anticipated expert testimony of former FA official Christopher Keyes (who will discuss the effects of Boeing's crime); Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>155</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; *see also* Anticipated expert testimony of former FAA official Christopher Keyes (who will discuss the effects of Boeing's crime); Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>156</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton.

<sup>157</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton.



of MCAS, nor had they been instructed on how to address an erroneous activation of the system. These omissions were the result of Boeing's crime.<sup>158</sup>

159. Given the actions that the Lion Air pilots apparently followed after uncommanded MCAS activation began, it is reasonable to conclude that they would have followed training on how respond to uncommanded MCAS activation at that time if they had been given such training.<sup>159</sup>

160. When the MCAS system on Lion Air flight 610 improperly activated, the passengers and crew of that flight were placed in a far riskier situation than they would have been in if the pilots of the flight had been informed about the existence of MCAS and received training on the possibility of an erroneous MCAS activation.<sup>160</sup>

161. The “misleading statements, half-truths, and omissions communicated by Boeing employees to the FAA impeded the government’s ability to ensure the safety of the flying public”—including the passengers who died on Lion Air flight 610.<sup>161</sup>

### **VIII. Boeing’s Conspiracy Continues After the Crash of Lion Air Flight 610**

162. Following the Lion Air crash, the FAA AEG learned that MCAS activated during the flight and likely played a role in the crash. The FAA AEG also learned for the first time about MCAS’s expanded operational scope.<sup>162</sup>

163. Following the Lion Air crash, up to and including (at least) the date of the Ethiopian Airlines crash, Boeing’s conspiracy to deceive the FAA continued.<sup>163</sup>

164. In early November 2018, Boeing engineers discussed among themselves how the MCAS took over Lion Air flight 610 and how to fix it. These candid internal communications stood in stark contrast to Boeing’s public pronouncements that the 737 MAX was safe.<sup>164</sup>

165. Both before and after the Lion Air crash, several pilots anonymously submitted complaints to the Aviation Safety Reporting System (“ASRS”) describing similar flight control issues

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<sup>158</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; *see also* Anticipated expert testimony of former FAA official Christopher Keyes (which will discuss the effects of Boeing’s crime). In addition, the victims’ families believe that it could secure similar testimony from an FAA official.

<sup>159</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton.

<sup>160</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes; Anticipated expert testimony of Dr. Rune Storesund. The victims’ families also believe that they could provide similar testimony from an FAA official.

<sup>161</sup> DOJ Press Release (Jan. 7, 2021), <https://www.justice.gov/opa/pr/boeing-charged-737-max-fraud-conspiracy-and-agrees-pay-over-25-billion>.

<sup>162</sup> SOF at ¶ 49, ¶ 52, ¶ 53.

<sup>163</sup> *See* 2020 House Comm. Rep. at 28.

<sup>164</sup> *In re Ethiopian Airlines Flight ET 302 Crash*, Lead Case No.; 19-cv-02170, Dkt. 1264-3 at ¶ 210 (N.D. Ill. Feb. 24, 2022); anticipated testimony of Boeing representative.

and unanticipated dives with 737 MAX aircraft. One such report submitted by a pilot in November 2018—after the Lion Air crash and before the Ethiopian Airlines crash—describes the pilot’s reaction to learning of the MCAS system as follows: “I think it is unconscionable that a manufacturer, the FAA, and the airlines would have pilots flying an airplane without adequately training, or even providing available resources and sufficient documentation to understand the highly complex systems that differentiate this aircraft from prior models. The fact that this airplane requires such jury rigging to fly is a red flag. Now we know the systems employed are error prone—even if the pilots aren’t sure what those systems are, what redundancies are in place, and failure modes. I am left to wonder: what else don’t I know? The Flight Manual is inadequate and almost criminally insufficient. All airlines that operate the MAX must insist that Boeing incorporate ALL systems in their manuals.”<sup>165</sup>

166. On November 14, 2018, Boeing CEO Dennis Muilenburg intentionally misrepresented to FOX Business that the MCAS was “part of the training manual, it’s an existing procedure.” He further misrepresented that “[t]he relevant function is described in the Flight Crew Operations Manual, and we routinely engage customers about how to operate our airplanes safely.”<sup>166</sup>

167. According to a House Transportation & Infrastructure Committee Report, Boeing “gambled with the public’s safety in the aftermath of the Lion Air crash, resulting in the death of 157 more individuals on Ethiopian Airlines flight 302, less than five months later.”<sup>167</sup>

168. After the Lion Air crash, Boeing—and, due to Boeing’s conspiracy, the FAA—failed to take the actions needed to avert a second crash.<sup>168</sup>

169. In November 2018, days after the Lion Air crash, Boeing—and, due to Boeing’s conspiracy, the FAA—issued advisories for 737 MAX pilots that failed to even mention the existence of MCAS by name.<sup>169</sup>

170. In the wake of the Lion Air crash, despite Boeing’s own simulator test results, Boeing—and due to Boeing’s crime, the FAA—tended to place the blame for the accidents on Lion Air’s foreign-trained pilots while discounting technical design flaws in the MAX.<sup>170</sup>

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<sup>165</sup> *In re Ethiopian Airlines Flight ET 302 Crash*, Lead Case No.; 19-cv-02170, Dkt. 1264-3 at ¶ 214 (N.D. Ill. Feb. 24, 2022).

<sup>166</sup> *Id.* at ¶ 216; anticipated testimony of Boeing representative.

<sup>167</sup> 2020 House Comm. Rep. at 28.

<sup>168</sup> 2020 House Comm. Rep. at 28; Anticipated expert testimony of 737 MAX pilot Vickie Norton.

<sup>169</sup> 2020 House Comm. Rep. at 28.

<sup>170</sup> 2020 House Comm. Rep. at 192 (*citing* See: Peter Economy, “Boeing CEO Puts Partial Blame on Pilots of Crashed 737 MAX Aircraft for Not ‘Completely’ Following Procedures,” *Inc.*, April 30, 2019, accessed here: <https://www.inc.com/peter-economy/boeing-ceo-puts-partial-blame-on-pilots-of-crashed-737-max-aircraft-for-not-completely-following-procedures.html>; Curt Devine, Aaron Cooper, and Drew Griffin, “Pilots union to Boeing: ‘Inexcusable’ to blame pilots for 737 Max crashes,” *CNN Business*, May 23, 2019, accessed here: <https://www.cnn.com/2019/05/23/business/american-airlines-boeing-pilots-union/index.html>; and Testimony of Daniel K. Elwell, Acting Administrator, Federal Aviation Administration, Hearing titled, “Status of the Boeing 737 MAX,” Subcommittee on Aviation of the Committee on Transportation and Infrastructure, U.S. House of Representatives, 116th Congress, First Session, May 15, 2019, pp. 32-33, accessed here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg37277/pdf/CHRG-116hhrg37277.pdf>); anticipated testimony of Boeing representative.



171. On November 7, the FAA issued an Emergency Airworthiness Directive (“AD”) identifying the potential danger presented by the flight control system, but not providing clear instruction on what pilots should do in the event of an AOA failure. In response, Boeing CEO Muilenburg sent an internal email warning the mandate might harm profitability: “[w]e need to be careful that the [airplane flight manual] doesn’t turn into a compliance item that restricts near-term deliveries.”<sup>171</sup>

172. As part of its conspiracy, even after the fatal Lion Air crash, Boeing falsely maintained that its “rationale” for removing references to MCAS from the 737 MAX training manual was still “valid,” and that the addition of MCAS on the 737 MAX did “not affect pilot knowledge, skills, abilities, or flight safety.”<sup>172</sup>

173. On November 13, 2018, the *Wall Street Journal* published an article criticizing Boeing for adding new “flight-control systems” on the 737 MAX which were involved in the crash of Lion Air but were not disclosed in training materials. Boeing CEO Dennis Muilenburg wrote to the Boeing Board that day, indicating that the article was “categorically false,” and claiming that a description of MCAS was included in the manual because the FCOM references “trim down” behavior that pilots would experience under certain circumstances. Even after the crash of ET 302, Boeing repeated this misleading claim that the MCAS function was described in the manual even if it was not identified by name. In an internal message sent to Boeing employees in November 2018, Muilenburg stated: “The relevant function is described in the Flight Crew Operations Manual and we routinely engage with our customers about how to operate our airplanes safely.” The claim that MCAS’ “relevant function” was already described in the FCOM is false. Boeing has admitted that the flight manuals were “materially false, inaccurate, and incomplete.”<sup>173</sup>

174. In and around the same time as the Lion Air crash, Boeing employees, including Boeing Employee-2, met with personnel from the FAA AEG to discuss, among other things, MCAS’s operational scope. After that meeting, Boeing Employee-2 told FAA AEG Employee-1 that he was previously unaware of MCAS’s expanded operational scope and otherwise misled FAA AEG Employee-1 about Boeing Employee-2’s prior knowledge of MCAS.<sup>174</sup>

175. Also, in and around the same time, Boeing Employee-2 caused Boeing to present a false and misleading presentation to the FAA AEG about MCAS. Boeing investigated, among other things, what information Forkner and Boeing Employee-2 provided to the FAA AEG about MCAS. In connection with this investigation, Boeing Employee-2 caused Boeing to represent in a presentation to the FAA AEG that, during the training-evaluation process, Boeing and the FAA AEG had “discussed and agreed on [the] removal of MCAS” from the 737 MAX FSB Report and associated materials. This representation was misleading because Boeing Employee-2 had failed

<sup>171</sup> *In re Ethiopian Airlines Flight ET 302 Crash*, Lead Case No.; 19-cv-02170, Dkt. 1264-3 at ¶ 233 (N.D. Ill. Feb. 24, 2022); anticipated testimony of Boeing representative.

<sup>172</sup> 2020 House Comm. Rep. at 27.

<sup>173</sup> *In re Ethiopian Airlines Flight ET 302 Crash*, Lead Case No.; 19-cv-02170, Dkt. 1264-3 at ¶ 237 (N.D. Ill. Feb. 24, 2022); anticipated testimony of Boeing representative; SOF at ¶ 46.

<sup>174</sup> SOF at ¶ 50.

to disclose the “shocker alert” chat communication and the fact that the FAA AEG was deprived of relevant information about MCAS.<sup>175</sup>

176. Following the Lion Air crash, Boeing proposed changes to the operational scope of MCAS, and the FAA AEG worked with Boeing to evaluate these changes to MCAS for purposes of pilot training. But Boeing still did not disclose everything about the MCAS and gambled with the public’s safety.<sup>176</sup>

177. As part of its conspiracy, after the Lion Air crash, Boeing also recommended that the FAA only require Level A training on MCAS. This is the training level with the fewest obligations, and would only require pilots to review printed materials that described MCAS as part of their transition from the 737 NG to the 737 MAX.<sup>177</sup>

178. On March 1, 2019, the FAA reminded Boeing that the original level of differences training proposed in 2016 by Boeing—before the Lion Air crash—was Level B. The FAA informed Boeing that the software changes to MCAS “may not meet the definition of Level A differences” training and advised Boeing that the company’s “evaluation is proceeding at risk.” As part of its conspiracy, Boeing did not respond to these warnings. Nine days later, Ethiopian Airlines flight 302 crashed.<sup>178</sup>

## **IX. Boeing’s Conspiracy Crime Directly Results in the Crash of Ethiopian Airlines Flight 302**

### *A. Factual Background Surrounding the Crash of Ethiopian Airlines Flight 302*

179. Boeing successfully marketed the 737 MAX to Ethiopian Airlines by promising that it would not require Level D flight simulator training. Marketing materials given to Ethiopian Airlines in 2014 contained slides that said pilot training would be “limited to Level B Training only...pending 737 MAX certification.”<sup>179</sup>

180. Ethiopian Civil Aviation Rules and Standards Part 5 - Airworthiness Section 5.2.1.2 states that Ethiopia accepts type certificates issued by the Federal Aviation Administration (FAA) of the United States of America.<sup>180</sup>

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<sup>175</sup> SOF at ¶ 51.

<sup>176</sup> SOF at ¶ 52; House Comm. Rep. at 28.

<sup>177</sup> 2020 House Comm. Rep. at 27; anticipated testimony of Boeing representative.

<sup>178</sup> 2020 House Comm. Rep. at 28.

<sup>179</sup> House report p. 145, fn. 859, referencing <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf> at p. 124; anticipated testimony of Boeing representative.

<sup>180</sup> Ethiopian Civil Aviation Rules and Standards Part 5 - Airworthiness Section 5.2.1.2.

181. As a direct result of Boeing's conspiracy, Ethiopian Airlines pilots (like all other 737 MAX pilots) did not receive flight simulator training on how to address an erroneous MCAS activation.<sup>181</sup>

182. On March 10, 2019, Ethiopian Airlines Flight 302 (ET 302), a Boeing 737 MAX, crashed near Ejere, Ethiopia six minutes after takeoff from Addis Ababa, Ethiopia. All 157 passengers and crew on board were killed.<sup>182</sup>

183. The circumstances of the crash of ET 302 were "strikingly similar" to those of the earlier Lion Air crash.<sup>183</sup>

184. The 737 MAX used for ET 302 had no known technical troubles.<sup>184</sup>

185. Over the approximately six minutes that ET 302 was airborne following its departure from Addis Ababa, Ethiopia, MCAS triggered four times as a result of erroneous Angle of Attack data and caused the airplane's horizontal stabilizer to force the airplane into a nose-down attitude from which the pilots were unable to recover.<sup>185</sup>

186. Following the crash of Ethiopian Airlines Flight 302, the Ethiopian Ministry of Transport Aircraft Accident Investigation Bureau (AAIB) conducted a legally authorized investigation into the crash, which produced factual findings about the crash.<sup>186</sup>

187. The Ethiopian AAIB found that there were no known technical problems with ET 302 before departure and that the aircraft weight and balance were within the normal operating limits.<sup>187</sup>

188. The Ethiopian AAIB found that ET 302's takeoff roll and lift-off was normal.<sup>188</sup>

189. The Ethiopian AAIB found that, shortly after ET 302 took off, MCAS triggered multiple automatic nose-down trim commands.<sup>189</sup>

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<sup>181</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes; Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>182</sup> SOF at ¶ 53.

<sup>183</sup> 2020 House Comm. Rep. at 6.

<sup>184</sup> 2020 House Comm. Rep. at 9.

<sup>185</sup> 2020 House Comm. Rep. at 9-10.

<sup>186</sup> FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA MINISTRY OF TRANSPORT, *Interim Investigation Report* at 130-32 ([https://reports.aviation-safety.net/2019/20190310-0\\_B38M\\_ET-AVJ\\_Interim.pdf](https://reports.aviation-safety.net/2019/20190310-0_B38M_ET-AVJ_Interim.pdf)) (hereinafter "Ethiopian AAIB Rep.").

<sup>187</sup> Ethiopian AAIB Rep. at 129.

<sup>188</sup> *Id.* at 131.

<sup>189</sup> *Id.* at 129-31.

190. The Ethiopian AAIB found that after MCAS triggered a fourth automatic nose-down trim command, vertical speed decreased and became negative three seconds later. ET 302 crashed shortly thereafter.<sup>190</sup>

191. The Ethiopian AAIB found that the differences training provided by Boeing for pilots moving from the 737NG to the 737 MAX was inadequate.<sup>191</sup>

192. The Ethiopian AAIB recommend that the differences training for pilots transitioning to the 737 MAX should include simulator sessions to familiarize pilots with normal and non-normal MCAS operation. The AAIB recommended that the training simulators be capable of simulating AOA failure scenarios.<sup>192</sup>

193. The Ethiopian AAIB endorsed recommendations from the U.S. National Transportation Safety Board (NTSB) that Boeing must ensure that its system safety assessments for the 737 MAX regarding pilot corrective actions in response to uncommanded flight control inputs from systems such as MCAS incorporate design enhancements, pilot procedures, and training requirements, where needed, to minimize safety risks.<sup>193</sup>

194. Following the Ethiopian Airlines crash, the FAA AEG learned that MCAS activated during the accident flight and likely played a role in the crash.<sup>194</sup>

195. On March 13, 2019, the 737 MAX was officially grounded in the United States, indefinitely halting further flights of the model by any U.S.-based airline.<sup>195</sup>

#### *B. Boeing's Conspiracy Caused the Crash of Ethiopian Airlines Flight 302*

196. Boeing's conspiracy directly resulted in the crash of Ethiopian Airlines Flight 302. Put another way, "but for" Boeing's conspiracy to deceive the FAA, the crash of ET 302 would not have occurred.<sup>196</sup>

197. The omission from the 737 MAX operating manual and pilot training materials of any substantive references to MCAS was an ultimate "but for" cause of the crash of ET 302.<sup>197</sup>

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<sup>190</sup> *Id.* at 131.

<sup>191</sup> *Id.* at 132.

<sup>192</sup> *Id.* at 132.

<sup>193</sup> *Id.* at 133-34 (adopting NTSB ASR-19-01).

<sup>194</sup> SOF at ¶ 53, 54, NTSB ASR-19-01.

<sup>195</sup> SOF at ¶ 54.

<sup>196</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; *see also* Anticipated expert testimony of former FAA official Christopher Keyes (which will discuss the effects of Boeing's crime); Anticipated testimony of Ms. Stacey Klein of the FAA.

<sup>197</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; the victims' families also believe that they could provide similar testimony from an FAA official.

198. Boeing's intentional lack of disclosure, coupled with its false, misleading and inaccurate description of MCAS' ultimate control authority and capabilities upon certification of the 737 MAX, was causal to the crash of ET 302. These intentional falsehoods and lack of disclosure extended not only to the FAA and the international aviation community, but also to Boeing's own airline customers and, ultimately, the flying public—including the 157 victims of the ET 302 crash.<sup>198</sup>

199. The inadequate pilot training with respect to MCAS was directly causal to the crash of ET 302 because adequate training would have prevented this tragedy.<sup>199</sup>

200. On March 10, 2019, at approximately 05:39:00 UTC (i.e., one minute after takeoff), the MCAS system on ET 302 improperly activated and took control of the Boeing 737 MAX aircraft. At that time, the pilots operating the aircraft had not received sufficient training on how to respond to an erroneous MCAS activation. These omissions were the result of Boeing's crime.<sup>200</sup>

201. If the Ethiopian airline pilots had received Level D simulator training on AOA failure scenarios and improper MCAS activation scenarios, they could have taken actions that would have prevented the crash.<sup>201</sup>

202. Given the actions that the pilots apparently took after uncommanded MCAS activation began, it is reasonable to conclude that they would have taken the appropriate actions to mitigate the problem if they had received Level D simulator training on AOA failure scenarios and uncommanded MCAS activation.<sup>202</sup>

203. When the MCAS system on ET 302 improperly activated, the passengers and crew of that flight were placed in a far riskier situation than they would have been in if pilots on the flight had receiving training and materials about the possibility of an improper MCAS activation.<sup>203</sup>

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<sup>198</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>199</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>200</sup> Ethiopian AAIB Rep. at 129-32. Anticipated expert testimony of 737 MAX pilot Vickie Norton. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>201</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>202</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>203</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes; Anticipated expert testimony of Dr. Rune Storesund. The victims' families also believe that they could provide similar testimony from an FAA official.

204. The “misleading statements, half-truths, and omissions communicated by Boeing employees to the FAA impeded the government’s ability to ensure the safety of the flying public”—including the passengers who died on ET 302.<sup>204</sup>

205. Boeing’s conspiracy to withhold details about the MCAS and the system’s true capabilities deprived the ET 302 pilots of necessary information needed to understand and manage an erroneous MCAS activation while in the midst of a cascading series of visual and audio alerts and alarms. As the NTSB Safety Recommendation Report stated, “the erroneous AOA output experienced during the two accident flights resulted in multiple alerts and indications to the flight crews, yet the crews lacked tools to identify the most effective response.”<sup>205</sup>

## **X. Boeing Falsely Attempts to Blame Foreign-Training Pilots for the Crashes**

206. In the wake of the Lion Air and Ethiopian Airlines crashes, despite Boeing’s own simulator test results, Boeing—and due to Boeing’s crime, the FAA—placed the blame for the accident on foreign-trained pilots.<sup>206</sup>

207. Contrary to Boeing’s efforts to assign blame elsewhere, the 31-year old captain of Lion Air flight 610 had accumulated over 5,000 hours of flight time on Boeing 737 airplanes, and the 41-year-old first officer had more than 4,200 hours on Boeing 737 models, indicating that they were seasoned pilots.<sup>207</sup>

208. Contrary to Boeing’s efforts to assign blame elsewhere, Ethiopian Airlines’ pilot training programs and facilities have garnered praise from seasoned American pilots.<sup>208</sup>

209. The young pilot captaining ET 302 had amassed over 5,000 flying hours on Boeing 737 aircraft, including 103 hours on the 737 MAX. Even the 25-year-old first officer of ET 302—

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<sup>204</sup> DOJ Press Release (Jan. 7, 2021), <https://www.justice.gov/opa/pr/boeing-charged-737-max-fraud-conspiracy-and-agrees-pay-over-25-billion>; Anticipated expert testimony of Dr. Rune Storesund The victims’ families also believe that they could provide similar testimony from an FAA official.

<sup>205</sup> *In re Ethiopian Airlines Flight ET 302 Crash*, Lead Case No.; 19-cv-02170, Dkt. 1264-3 at ¶ 324 (N.D. Ill. Feb. 24, 2022).

<sup>206</sup> 2020 House Comm. Rep. at 142 (*citing* See: Peter Economy, “Boeing CEO Puts Partial Blame on Pilots of Crashed 737 MAX Aircraft for Not ‘Completely’ Following Procedures,” Inc., April 30, 2019, accessed here: <https://www.inc.com/peter-economy/boeing-ceo-puts-partial-blame-on-pilots-of-crashed-737-max-aircraft-for-not-completely-following-procedures.html>; Curt Devine, Aaron Cooper, and Drew Griffin, “Pilots union to Boeing: ‘Inexcusable’ to blame pilots for 737 Max crashes,” CNN Business, May 23, 2019, accessed here: <https://www.cnn.com/2019/05/23/business/american-airlines-boeing-pilots-union/index.html>; and Testimony of Daniel K. Elwell, Acting Administrator, Federal Aviation Administration, Hearing titled, “Status of the Boeing 737 MAX,” Subcommittee on Aviation of the Committee on Transportation and Infrastructure, U.S. House of Representatives, 116th Congress, First Session, May 15, 2019, pp. 32-33, accessed here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg37277/pdf/CHRG-116hhrg37277.pdf>).

<sup>207</sup> 2020 House Comm. Rep. at 10.

<sup>208</sup> 2020 House Comm. Rep. at 7.



who was the least experienced of the pilots—had accumulated 207 hours flying Boeing 737 aircraft after obtaining his commercial pilot’s license in December 2018.<sup>209</sup>

210. Addressing the qualifications of these pilots at a June 2019 House Subcommittee on Aviation hearing, Captain Dan Carey, a 35-year career pilot and then-president of the Allied Pilots Association, which represents 15,000 American Airlines pilots, said in his written statement: “To make the claim that these accidents would not happen to U.S.-trained pilots is presumptuous and not supported by fact. Vilifying non-U.S. pilots is disrespectful and not solution-based, nor is it in line with a sorely needed global safety culture that delivers one standard of safety and training. Simply put, Boeing does not produce aircraft for U.S. pilots vs. pilots from the rest of the world.”<sup>210</sup>

211. Boeing’s own test data showed that a Boeing test pilot with prior knowledge of the MCAS system had struggled to effectively and timely respond to an uncommanded MCAS activation in a MAX simulator. Boeing subsequently found that the condition had the potential to produce a “catastrophic” outcome. Boeing did not inform the FAA of this test data, which would have been highly relevant to the FAA’s training determinations.<sup>211</sup>

212. Real life was no different than Boeing’s own test data. Pilots on the doomed Lion Air and Ethiopian Airlines flights struggled to regain control of the 737 MAX aircraft following the erroneous activation of MCA and their inability to timely recognize and solve the problem because of lack of information and training about MCAS led to the two crashes.<sup>212</sup>

## **XI. Boeing’s Conspiracy Caused the FAA to Delay Requiring Flight Simulator Training for Dealing with Uncommanded MCAS Activation on the Boeing 737 MAX**

### *A. Boeing’s Crime Caused Delay in the FAA’s Recognition of the Need for Flight Simulator and Other Training for Dealing with Uncommanded MCAS Activation*

213. The FAA grounded U.S.-based 737 MAX aircraft on March 13, 2019 (three days after the second crash – i.e., the crash of ET 302).<sup>213</sup>

<sup>209</sup> 2020 House Comm. Rep. at 10.

<sup>210</sup> 2020 House Comm. Rep. at 11.

<sup>211</sup> House Comm. Report at 142 (citing Internal Boeing email, “Subject: MCAS Hazard Assessment,” Sent: November 1, 2012, 1:41 PM, BATES Number TBC-T&I 131226 – 131227).

<sup>212</sup> House Comm. Rep. at 142-43 (citing “Lion Air Flight 610 Final Aircraft Accident Investigation Report,” pp. xviii and 19-28, accessed here: <https://aviation-is.better-than.tv/737%20MAX%202018%20-%20035%20-%20PK-LQP%20Final%20Report.pdf> and “Ethiopian Airlines Flight 302 Interim Investigation Report,” pp. 130-132, accessed here: <http://www.aib.gov.et/wp-content/uploads/2020/documents/accident/ET-302%20%20Interim%20Investigation%20%20Report%20March%209%202020.pdf>).

<sup>213</sup> House Comm. Rep. at 166.

214. If the FAA's grounding order had been entered one week earlier, the crash of ET Flight 302 would have been prevented, because the aircraft for that flight would have been grounded.<sup>214</sup>

215. If the FAA's grounding order had been entered five months earlier, the crash of Lion Air Flight 610 would have been prevented, because the aircraft for that flight would have been grounded.<sup>215</sup>

216. The FAA would have entered a grounding order earlier if Boeing had not delayed in making its January 2020 announcement that simulator training was recommended for all 737 MAX pilots.<sup>216</sup>

*B. Boeing Ultimately Conceded Simulator Training Was Appropriate for the 737 MAX*

217. In January 2020, Boeing made a stunning reversal of its previous goal to prevent pilot simulator training and recommended that simulator training be required for *all* 737 MAX pilots once the plane was ungrounded and returned to service.<sup>217</sup>

218. Boeing tacitly conceded the failure of its previous pilot training assumptions by announcing in January 2020 that it would recommend simulator training for MAX pilots going forward.<sup>218</sup>

219. In a short statement on January 7, 2020, Boeing announced:

Boeing is recommending 737 MAX simulator training in addition to computer based training for all MAX pilots prior to return to service of the 737 MAX. This recommendation takes into account our unstinting commitment to the safe return of service as well as changes to the airplane and test results. Final determination will be established by the regulators.<sup>219</sup>

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<sup>214</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>215</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>216</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official. *See also* 2020 House Report at 160-61 (*citing* "Boeing Statement on 737 MAX Simulator Training," Press Release, The Boeing Company, January 7, 2020, accessed here: <https://boeing.mediaroom.com/news-releases-statements?item=130596>).

<sup>217</sup> 2020 House Report at 141 (*citing* "Boeing Statement on 737 MAX Simulator Training," Press Release, The Boeing Company, January 7, 2020, accessed here: <https://boeing.mediaroom.com/news-releases-statements?item=130596>).

<sup>218</sup> 2020 House Report at 141 (*citing* "Boeing Statement on 737 MAX Simulator Training," Press Release, The Boeing Company, January 7, 2020, accessed here: <https://boeing.mediaroom.com/news-releases-statements?item=130596>).

<sup>219</sup> House Comm. Rep. at 161.



220. The *New York Times* reported that, “[t]he decision stems from Boeing’s analysis of recent flight simulator tests that were part of the work necessary to return the Max to service, which showed that pilots were not using the right procedures to handle emergencies.”<sup>220</sup>

221. It is important to remember that Boeing was aware of slow pilot reaction times in response to uncommanded MCAS activations that could jeopardize the safety of the 737 MAX well before the airplane was certified.<sup>221</sup>

222. In 2012, Boeing’s own test pilot concluded that some pilots might not respond rapidly enough to successfully counter an uncommanded MCAS activation, a hazard condition which Boeing’s test pilot found to be “catastrophic[.]”<sup>222</sup>

223. Rather than fully investigating that issue and determining if greater training requirements might be required to improve pilot recognition and response times, Boeing disregarded the test results, ignored the evidence they had, and chose not to inform the FAA, its airline customers, or 737 MAX pilots about this internal data.<sup>223</sup>

224. Flight simulators permit pilots to safely face realistic emergency scenarios and allow the pilots to repeatedly practice identifying the problem causing the emergencies and execute the proper emergency procedures. The first time that the pilots of Lion Air Flight 610 and Ethiopian Airlines Flight 302 ever faced MCAS emergencies was on actual commercial flights with airplanes full of passengers and crew.<sup>224</sup>

225. Captain Chesley B. “Sully” Sullenberger III emphasized the critical need for simulator training on MCAS in his June 19, 2019, testimony before the Subcommittee on Aviation of the House Committee on Transportation & Infrastructure. In his prepared statement, Captain Sullenberger noted that an erroneous high AOA in the 737 MAX would generate confusing and distracting flight deck effects that would add to the pilots’ workload and make diagnosing and responding to the emergency much more difficult. With Level D simulator training, pilots would “see, hear, feel, experience and understand the challenges associated with MCAS, such as Unreliable Airspeed, AOA Disagree, Runaway Stabilizer and Manual Trim. They must have the training opportunity to understand how higher airspeeds greatly increase the airloads on the stabilizer, making it much more difficult to move manually, often requiring a pilot to use two

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<sup>220</sup> Natalie Kitroeff and David Gelles, “In Reversal, Boeing Recommends 737 Max Simulator Training for Pilots,” *NEW YORK TIMES*, January 7, 2020, accessed here: <https://www.nytimes.com/2020/01/07/business/boeing-737-max-simulator-training.html>

<sup>221</sup> See: Boeing Coordination Sheet, “737MAX Flaps Up High Alpha Stabilizer Trim (MCAS) Requirements,” No. Aero- B-BBA8-C12-0159, Model: 737-MAX (-7/8/9), Revision D, March 30, 2016, and Boeing Coordination Sheet, “737MAX Flaps Up High Alpha Stabilizer Trim (MCAS) Requirements,” No. Aero-B-BBA8-C12-0159, Model: 737- MAX (-7/8/9), Revision G, June, 11 2018, accessed at pp. 164 and 174 here: <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38282/pdf/CHRG-116hhrg38282.pdf>

<sup>222</sup> Internal Boeing email, “Subject: MCAS Hazard Assessment,” Sent: November 1, 2012, 1:41 PM, BATES Number TBC-T&I 131226 – 131227 (on file with House Transportation Comm.).

<sup>223</sup> 2020 House Comm. Rep. at 162.

<sup>224</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton.

hands, or even the efforts of both pilots to move it. And in some cases, how it cannot be moved at all unless the pilot flying temporarily stops trying to raise the nose and relieves some of the airloads by moving the control wheel forward.”<sup>225</sup>

226. Captain Sullenberger stressed that pilots need simulator training to quickly and correctly respond to a sudden emergency because “reading about it on an iPad is not even close to sufficient; pilots need to experience it physically, firsthand.”<sup>226</sup>

227. Captain Sullenberger’s assessment is that same as expert witness Vickie Norton’s.<sup>227</sup>

228. The problem of identifying what was happening with MCAS was compounded by all of the other things going on in the cockpit. With the plethora of conflicting visual, audible, and other signals, the only way a pilot could effectively make sense of what was happening was through prior training.<sup>228</sup>

*C. Boeing’s Conspiracy Caused a Delay in Flight Simulator Training Which Would Have Prevented the Two Crashes*

229. After the two crashes, the FAA AEG ultimately decided that pilot training manuals for the 737 MAX must include an explanation of MCAS and how pilots should address an unintended activation, and that 737 MAX pilots should undergo simulator training on how to mitigate an MCAS-generated emergency. Ironically, it was this exact outcome that Boeing sought to short-circuit and undermine through its conspiracy crime.<sup>229</sup>

230. If Boeing had not committed its crime and had properly told the FAA AEG about the expanded risk of improper MCAS activation in 2016, the FAA would have moved more rapidly to require Level D simulator training.<sup>230</sup>

231. If Boeing had not committed its crime and told the FAA AEG about the expanded risk of improper MCAS activation in 2016, the FAA would have moved more rapidly to require that information about MCAS and its potential improper activation be provided to pilots flying the Boeing 737 MAX.<sup>231</sup>

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<sup>225</sup> Statement of Chesley B. “Sully” Sullenberger III, to the House Transportation Comm. Subcommittee on Aviation (June 19, 2019), <https://transportation.house.gov/imo/media/doc/Sully%20Sullenberger%20Testimony.pdf>.

<sup>226</sup> *Id.*

<sup>227</sup> Anticipated expert witness testimony of Vickie Norton.

<sup>228</sup> Anticipated expert testimony of Vickie Norton.

<sup>229</sup> Brief for the Government, *United States v. Forkner*, No. 4:21-cr-00268-O, Dkt. 61 at 4 (N.D. Tex. 2021).

<sup>230</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims’ families also believe that they could provide similar testimony from an FAA official.

<sup>231</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims’ families also believe that they could provide similar testimony from an FAA official.

232. In the more than four months between the Lion Air flight 610 crash and the Ethiopian Airlines flight 302 crash, the FAA was working to understand how unintended MCAS activation posed a risk to flight safety. Tragically, the FAA ran out of time before it could complete its evaluation. If Boeing had properly disclosed all of the information in its possession to the FAA AEG, the FAA would have been able to complete its evaluation before March 10, 2019, and would have taken the necessary steps to prevented the crash of ET 302.<sup>232</sup>

233. Boeing's conspiracy denied the pilots of Lion Air flight 610 and ET 302 the benefits of simulator training in the MAX. If the FAA AEG had known about the risk of unintended MCAS activation that Boeing concealed from it, they would have ordered Level D instead of Level B differences training in 2016.<sup>233</sup>

234. If the FAA had ordered Level D instead of Level B differences training in 2016, the order would have initially and immediately applied to U.S. based carriers—but most certainly would have led to Lion Air and Ethiopian Airlines also requiring Level D differences training for their 737 type-rated pilots.<sup>234</sup>

## **XII. The Two Crashes Caused by Boeing's Conspiracy Were Foreseeable**

235. Because the FAA is the agency charged with ensuring the safety of air travel, any deception of the FAA would necessarily and foreseeably involve safety implications.<sup>235</sup>

236. Boeing engaged in multiple efforts to downplay the role and potential safety implications of MCAS on the 737 MAX and attempted to abolish any reference to MCAS from the aircraft operations manual, pilot training manuals, and various regulatory documents.<sup>236</sup>

237. In around May 2013, Boeing was aware that if it “emphasize[d] MCAS is a new function there may be greater certification and training impact.”<sup>237</sup>

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<sup>232</sup> SOF at ¶ 52; Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>233</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>234</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton; Anticipated expert testimony of former FAA official Christopher Keyes. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>235</sup> Anticipated expert testimony of 737 MAX pilot Vickie Norton. The victims' families also believe that they could provide similar testimony from an FAA official.

<sup>236</sup> 2020 House Comm. Rep. at 98.

<sup>237</sup> 2020 House Comm. Rep. at 150 (citing Boeing internal email, “Subject: PRG – 37MAXFCI-PDR\_AI22 – MCAS/Speed Trim,” June 7, 2013, 9:13:10 PM, accessed at p. 93 here: <https://transportation.house.gov/imo/media/doc/Compressed%20Updated%202020.01.09%20Boeing%20Production.pdf>).

238. Boeing's strategy was designed to help shield itself against greater hurdles to aircraft certification and the negative financial impact of increased pilot training requirements—i.e., to prevent the FAA from taking more steps to protect the safety of the flying public.<sup>238</sup>

239. Early in the 737 MAX program, Boeing recognized that the addition of MCAS to the plane's flight control computer posed a risk to differences training for pilots transitioning from the 737NG to the 737 MAX at only the Level B (i.e., non-simulator training). As result, Boeing's conspiracy was designed to conceal critical information about MCAS and its capabilities from the FAA—the federal agency specifically charged with ensuring the safety of the flying public.<sup>239</sup>

240. On November 15, 2016, Forkner and Boeing Employee-2 recognized that the FAA AEG was under the misimpression that MCAS was inoperable at lower Mach ranges, such as at Mach 0.2. Forkner and Boeing Employee-2 therefore knew, at least as of the time, that the FAA AEG's provisional "Level B" differences-training determination had been based in part on outdated and inaccurate information about MCAS.<sup>240</sup>

241. On or about the same day, Forkner was aware that MCAS was "running rampant in the sim"—i.e., was trying to take control of the aircraft in the simulator with potentially catastrophic consequences.<sup>241</sup>

242. From 2015 to 2018, the fact that Boeing's own test pilots took more than 10 seconds to successfully respond to an uncommanded MCAS activation in a flight simulator, resulting in a potentially "catastrophic" functional hazard assessment, was included in at least six separate internal Boeing Coordination Sheets concerning MCAS. This indicates Boeing's keen awareness of the importance of this information. Yet they did nothing of substance with it.<sup>242</sup>

243. At least four Boeing Authorized Representatives—Boeing employees who are granted special permission to represent the interests of the FAA and to act on the agency's behalf in validating aircraft systems and designs' compliance with FAA requirements—were aware of these findings about potential catastrophic consequences from an uncommanded MCAS activation and never reported them to the FAA.<sup>243</sup>

244. Boeing recognized that its deception of the FAA would lead to inadequate pilot training. Boeing promised to "go face to face with any regulator who tried to make 737 MAX simulator training a requirement."<sup>244</sup>

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<sup>238</sup> 2020 House Comm. Rep. at 99; anticipated expert testimony of Vickie Norton.

<sup>239</sup> 2020 House Comm. Rep. at 25.

<sup>240</sup> SOF at ¶ 33.

<sup>241</sup> SOF at ¶ 32.

<sup>242</sup> 2020 House Comm. Rep. at 25; anticipated testimony of Boeing representative.

<sup>243</sup> 2020 House Comm. Rep. at 25.

<sup>244</sup> 2020 House Comm. Rep. at 26.

245. Quickly after the crash of Lion Air flight 610, Boeing knew for certain that its conspiracy to deceive the FAA had produced fatal consequences. Yet Boeing still decided to “gamble[] with the public’s safety in the aftermath of the Lion Air crash.”<sup>245</sup>

246. Boeing clearly appreciated the problems with inadequate pilot training on MCAS. After the Lion Air crash, Boeing engineers feverishly worked through weekends and holidays to make critical changes to the 737 MAX’s MCAS, which it planned to implement by way of what it described as a “software update.” The day after the crash of ET 302, Boeing confirmed in a statement that it had for several months “been developing a flight control software enhancement for the 737 MAX, designed to make an already safe aircraft even safer.”<sup>246</sup>

247. On March 1, 2019, the FAA reminded Boeing about its concerns with insufficient pilot training on MCAS, advising Boeing that the company’s “evaluation is proceeding at risk.” Nine days later, Ethiopian Airlines flight 302 crashed.<sup>247</sup>

### **XIII. Boeing’s Conspiracy Delayed Required Risk-Reduction Activities and Substantially Contributed to the Knowable and Preventable Crashes of Lion Air Flight 610 on October 29, 2018 and Ethiopian Airlines Flight 302 on March 10, 2019**

248. Boeing’s criminal acts delayed critical risk-reduction activities and substantially contributed to the entirely preventable crashes of Lion Air flight 610 on October 29, 2018, and Ethiopian Airlines Flight 302 on March 10, 2019.<sup>248</sup>

249. The cost implications of implementing Level D simulator-based differences training would have been insignificant relative to the disproportionate risk to which the flying public was exposed as a result of Boeing’s conspiracy.<sup>249</sup>

250. Pilots transitioning to the 737 MAX, including the pilots of Lion Air flight 610 and Ethiopian Airlines flight 302, would have expected and wanted comprehensive information and pilot training on MCAS had they been aware of the system’s existence and the catastrophic risk posed by a potential erroneous activation.<sup>250</sup>

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<sup>245</sup> 2020 House Comm. Rep. at 27.

<sup>246</sup> *In re Ethiopian Airlines Flight ET 302 Crash*, Lead Case No.; 19-cv-02170, Dkt. 1264-3 at ¶ 219 (N.D. Ill. Feb. 24, 2022); anticipated testimony of Boeing representative.

<sup>247</sup> 2020 House Comm. Rep. at 28.

<sup>248</sup> Anticipated expert testimony of Dr. Rune Storesund. The victims’ families believe that they could provide similar testimony from an FAA official.

<sup>249</sup> Anticipated expert testimony of Dr. Rune Storesund. The victims’ families believe that they could provide similar testimony from an FAA official.

<sup>250</sup> See Brief for the Government on Defendant’s Motion in Limine, *United States v. Forkner*, No. 4:21-cr-268-O, Dkt. 61 at 10 (Dec. 15, 2021) (discussing to major airlines).

251. The lack of appropriate or incomplete MCAS training put every crewmember and passenger on board every B737MAX at an unwarranted risk for a catastrophic event every time they took off.<sup>251</sup>

252. Boeing's crime flies in the face of fundamental principles of aviation safety.<sup>252</sup>

#### **XIV. The Justice Department Provided Inaccurate Information to the Victims' Families About its Investigation into the Two Crashes.**

253. As early as May 2019, the families of the victims who perished in the 737 MAX crashes became aware of general media reports suggesting that the Department of Justice was investigating Boeing for possible criminal conduct related to the two Boeing 737 MAX crashes.<sup>253</sup>

254. On February 19, 2020, having heard nothing from the Justice Department (or federal investigators)—and with the one-year anniversary of the crash of Ethiopian Airlines flight 302 looming—Thomas Gallagher of the non-profit Flight 302 Families Foundation emailed Marie A. O'Rourke, the Victims' Rights Ombudsman at the Justice Department in Washington, D.C., seeking information for the victims' families on all matters connected to the Ethiopian Airlines crash, including any ongoing or future criminal investigation or prosecution conducted by the Justice Department in connection with the crashes. Mr. Gallagher requested a meeting on behalf of the Foundation's member families and proposed a date of March 3, 2020.<sup>254</sup>

255. Ms. O'Rourke responded via email to Mr. Gallagher later that day that she was not aware of which office might be working on the investigation and that she would forward the inquiry to the FBI's Victim-Witness Office.<sup>255</sup>

256. The next day, February 20, 2020, Mr. Gallagher replied to Ms. O'Rourke that news reports and Boeing's own 2019 Form 10-K filed with the Securities and Exchange Commission (SEC) on January 31, 2020, indicated that the Justice Department's Criminal Division was investigating Boeing. He asked, "How do I go about identifying the attorneys assigned to this investigation?"<sup>256</sup>

257. Indeed, in its 2019 Form 10-K filed with the SEC on January 31, 2020, Boeing stated that it was "fully cooperating with U.S. government investigations *related to the accidents and the 737 MAX*," including an "investigation by *the U.S. Department of Justice*."<sup>257</sup>

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<sup>251</sup> Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>252</sup> Anticipated expert testimony of former FAA official Christopher Keyes.

<sup>253</sup> *Milleron-Stumo Aff.*, Ex. 10 ¶ 6, Appx. 031. Note: References to "Appx." are to the appendix filed along with the Victims' Families motions on December 16, 2021.

<sup>254</sup> *Id.* ¶ 5, Appx. 064.

<sup>255</sup> *Id.* ¶ 6, Appx. 064.

<sup>256</sup> *Id.* ¶ 7, Appx. 064.

<sup>257</sup> Boeing Form 10-K for Fiscal Year 2019 at Item 1A (Jan. 31, 2020), available at <https://www.sec.gov/ix?doc=/Archives/edgar/data/12927/000001292720000014/a201912dec3110k.htm>; anticipated testimony of Boeing representative.



258. Ms. O'Rourke replied the same day and stated that the FBI advised her that it did not have any criminal investigation into this crash, nor was it aware of any open cases at the Justice Department. She also stated that "[i]f there is an investigation into the safety issues for this model aircraft it would be handled by the NTSB, and you may wish to contact them." Ms. O'Rourke continued, "It is possible that there are outstanding civil reviews or cases, but since those would not fall within the purview of the Crime Victims' Rights Act, this office cannot assist you." She concluded, "If criminal charges are filed at some point, victims will be advised of that and notified of their rights under the CVRA."<sup>258</sup>

259. Naturally, it was highly distressing for the victims' families to be told one thing by the Justice Department's Victims' Rights Ombudsman while finding out that the opposite was true through media reports. Nadia Milleron, one of the victims' family group representatives, explained that she could not understand how Ms. O'Rourke could flatly represent that no Justice Department investigation was ongoing while the media reported the exact opposite.<sup>259</sup>

260. On or about February 21, 2020, Mr. Gallagher telephoned the FBI's Victim-Witness Office to seek any information related to the reported investigation of Boeing. Katie McCabe, a victim specialist, called Mr. Gallagher back. As Mr. Gallagher best recalls, Ms. McCabe stated she was not aware of any criminal investigation.<sup>260</sup>

261. The information that Ms. O'Rourke conveyed to the victims' families (through Mr. Gallagher) was inaccurate.<sup>261</sup>

262. What was inaccurate about the information that Ms. O'Rourke and Ms. McCabe conveyed to the victims' families was that the Justice Department had a criminal investigation ongoing regarding the two Boeing 737 MAX crashes.<sup>262</sup>

263. Among the crimes that the Justice Department was investigating was fraud involving aircraft parts producing a failure resulting in death.<sup>263</sup>

264. Among the crimes that the Justice Department was investigating was manslaughter.<sup>264</sup>

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<sup>258</sup> *Id.* ¶ 8, Appx. 064, 075 & Ex. 4 to Gallagher Aff.

<sup>259</sup> Ex. 10 ¶ 15, Appx. 032.

<sup>260</sup> *See* Gallagher Aff., Ex. 16 ¶ 9, Appx. 065.

<sup>261</sup> Gov't Resp. to CVRA Mot., DE 58 at 23; anticipated testimony of DOJ representative; anticipated testimony of Boeing representative.

<sup>262</sup> *See* Boeing Form 10-K for Fiscal Year 2019 at Item 1A (Jan. 31, 2020), available at <https://www.sec.gov/ix?doc=/Archives/edgar/data/12927/000001292720000014/a201912dec3110k.htm>; Anticipated testimony of DOJ representative; Anticipated testimony of Boeing representative.

<sup>263</sup> Anticipated testimony of DOJ representative; 18 U.S.C. § 38(a)(3).

<sup>264</sup> Anticipated testimony of DOJ representative; 18 U.S.C. § 1112



265. Among the crimes that the Justice Department was investigating was conspiracy resulting in death. Many other crimes were investigated as well.<sup>265</sup>

266. Any effort by Ms. O'Rourke to determine whether a criminal investigation was on-going was inadequate, as reports of the investigation were widespread in the media. Ms. O'Rourke was aware of those news reports (and other information) because Mr. Gallagher had made her aware. In denying that a criminal investigation was in process, Ms. O'Rourke acted (at a minimum) in reckless disregard of the truth.<sup>266</sup>

267. Ms. O'Rourke has never apologized for providing inaccurate information or corrected the inaccurate information that she provided.<sup>267</sup>

268. Ms. McCabe has never apologized for providing inaccurate information or corrected the inaccurate information that she provided.<sup>268</sup>

269. Justice Department policy is that its responsibilities to crime victims begin as soon as possible after the detection of a crime at which those responsibilities may be undertaken without interfering in the investigation. Generally, this point in time is defined by the opening of a criminal investigation.<sup>269</sup>

270. Justice Department policy is that, after an investigative agency opens a case, a responsibility official in the agency should provide victims with general information, including general information about the criminal justice process.<sup>270</sup>

271. Justice Department policy is that, during a criminal investigation, a responsible official for the investigative agency shall provide the victims with the earliest possible notice concerning the status of the investigation of the crime, to the extent that it is appropriate and will not interfere with the investigation.<sup>271</sup>

272. In February 2020, providing notice to the 737 MAX victims' families of the Department's criminal investigation into Boeing's crimes would have been appropriate and would not have interfered with the investigation. Boeing was already well aware that an investigation was underway by that time.<sup>272</sup>

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<sup>265</sup> Anticipated testimony of DOJ Representative; 18 U.S.C. § 371.

<sup>266</sup> See Gallagher Aff., Ex. 16, Appx. 064-65.

<sup>267</sup> Anticipated testimony of Ms. O'Rourke.

<sup>268</sup> Anticipated testimony of Ms. McCabe.

<sup>269</sup> Attorney General Guidelines for Victim and Witness Assistance: 2011 ed. at 26 (Rev. May 2012).

<sup>270</sup> *Id.* at 27-28.

<sup>271</sup> *Id.* at 28.

<sup>272</sup> DPA at 4-5; anticipated testimony of DOJ representative; anticipated testimony of Boeing representative.

273. The Justice Department never advised the victims' families at any point of its criminal investigation into the crashes before January 7, 2021, when the DOJ entered into a Deferred Prosecution Agreement (DPA) with Boeing.<sup>273</sup>

274. By keeping the victims' families in the dark, the Government effectively foreclosed any possibility of victims' families conferring with the prosecutors working on the case.<sup>274</sup>

275. The Justice Department recently apologized for not meeting and conferring with the victims' families.<sup>275</sup>

276. Conferring with the victims' families in this case would not have been difficult, and the Justice Department is now enacting policies to make sure that such concealment of a DPA never happens again.<sup>276</sup>

277. Boeing was aware that the victims' families had not been conferred with and that the DPA was being kept secret from them.<sup>277</sup>

## **XV. The Justice Department and Boeing Negotiate a Rotten DPA**

278. The DPA followed an extensive criminal investigation by the Justice Department which lasted more than two years.<sup>278</sup>

279. After describing Boeing's conspiracy crime, the DPA states that "the misconduct was neither pervasive across the organization, nor undertaken by a large number of employees, *nor facilitated by [Boeing's] senior mismanagement.*" This exonerating language is extraordinary, as it is not typically included in Justice Department DPAs.<sup>279</sup>

280. In reaching its conclusion that Boeing's conspiracy crime was not facilitated by Boeing's senior management, the Justice Department did not question under oath (or even interview) every member of Boeing's senior management.<sup>280</sup>

281. The DPA provides that the Government "will not bring any criminal or civil case against [Boeing] relating to any of the conduct as described in the attached Statement of Facts or the Information filed pursuant to this Agreement." The DPA offers no reason for this broad shall-not-file-charges provision.<sup>281</sup>

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<sup>273</sup> Dkt. 58 at 1-2, 7.

<sup>274</sup> DE 52 at 10.

<sup>275</sup> DE 58 at 1.

<sup>276</sup> DE 58 at 8.

<sup>277</sup> Anticipated testimony of DOJ representative; Anticipated testimony of Boeing representative.

<sup>278</sup> Boeing Resp. to Victims' Families Motions, DE 62 at 8.

<sup>279</sup> DPA at ¶ 4(h) (emphasis added); Victims Reply on Supervisory Powers Mot., DE 65 at 2.

<sup>280</sup> Anticipated Testimony of DOJ Representative; Anticipated testimony of Boeing representative.

<sup>281</sup> DPA ¶ 20; DE 65 at 5.

282. The DPA also provides that “that any prosecution of [Boeing] for the conduct set forth in the attached Statement of Facts or Information will be and hereby is deferred for the Term.... Six months after the Agreement’s expiration, the [Government] shall seek dismissal with prejudice of the [Criminal] Information filed against [Boeing] ... and agree[s] not to file charges in the future against [Boeing] based on the conduct described in this Agreement, the attached Statement of Facts, or the Information.”<sup>282</sup>

283. The universe of federal criminal offenses that could not be filed against Boeing under the shall-not-file-charges provision described in the previous paragraph is huge. It includes, for example, federal manslaughter crimes or federal conspiracy crimes that result in death.<sup>283</sup>

284. The universe of federal criminal offenses that could not be filed against Boeing includes, for example, fraud involving aircraft parts whose failure results in death.<sup>284</sup>

285. In its January 7, 2021, press release announcing the DPA, the Justice Department told that world that “Boeing will pay a total criminal monetary amount of over \$2.5 billion, composed of ... compensation payments to Boeing’s 737 MAX airline customers of \$1.77 billion.” Yet on close inspection, the DPA states that the “Airline Compensation Amount shall be offset by any payments already made by the Company, as of the date this Agreement is fully executed, to any of its airline customers for the direct pecuniary harm that its airline customers incurred as a result of the grounding of the Company’s 737 MAX.” DPA ¶ 12. Thus, both the DPA and the press release ignore the fact that, as was reported in the media one year before, Boeing had already settled at least \$1.4 billion in customer compensation claims and “projected a total bill of \$8.8 billion, excluding potential payments to victims’ families or the results of multiple probes being conducted by authorities.”<sup>285</sup>

286. The Justice Department deceptively tried to take credit for payments in the DPA that were not only owed contractually and independent of its investigation but had also been paid by the time the DPA was executed.<sup>286</sup>

287. The Government and Boeing negotiated together to come up with a \$500 million crash victims’ compensation fund. But they never talked about the size of the fund with the people who were most affected—the victims’ families. And the victims’ families also possessed the most information about this valuation—information about such subjects as lost income, pain and suffering, and other factors that would necessarily need to be considered in arriving at a fair and just figure.<sup>287</sup>

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<sup>282</sup> DPA ¶¶ 24-25.

<sup>283</sup> See 18 U.S.C. § 1112, § 371.

<sup>284</sup> See 18 U.S.C. § 38(b)(3).

<sup>285</sup> Dkt. 65 at 7-9.

<sup>286</sup> Dkt. 65 at 8.

<sup>287</sup> Appx. 1-32.

## **XVI. Subsequent Events Concerning Lack of an Arraignment, Lack of Conditions of Release, and the Need for Remedies**

288. The Criminal Information and DPA in this case were filed on January 7, 2021.<sup>288</sup>

289. The Government never gave timely notice (or any notice) to any of the victims' families (or hundreds of other persons similarly situated) about the DPA before it was finalized and filed in the Fort Worth Division of the Northern District of Texas. <sup>289</sup>

290. The Government never conferred with any of the victims' families (or hundreds of other persons similarly situated) about the DPA.<sup>290</sup>

291. The victims' families did not obtain legal counsel to challenge the DPA until around late November 2021. Their legal counsel (Professor Cassell) is proceeding pro bono.<sup>291</sup>

292. After obtaining pro bono legal counsel, the victims' families moved rapidly and filed their challenges to the DPA within about one month.<sup>292</sup>

293. The same day that the victims' families filed their motions (December 16, 2021), they wrote to the Justice Department seeking its support.<sup>293</sup>

294. On January 10, 2022, undersigned counsel and other representatives of the victims' families had a Zoom conference call with representatives of the Fraud Section of the U.S. Department of Justice about this case. During the call, the Fraud Section's representatives refused to confer with the families' representatives about this case, including whether the families represented "crime victims" within the meaning of the CVRA. Instead, the Fraud Section took the position that that the call was merely a "listening session" for the Department to learn about the concerns of the victims' families.<sup>294</sup>

295. On January 14, 2022, undersigned counsel and other representatives of the victims' families had a Zoom conference call with representatives of the Criminal Division of the U.S. Department of Justice about this case, including the Assistant Attorney General for the Criminal Division, Kenneth A. Polite, Jr. During the call, the Criminal Division's representatives refused to confer with the families' representatives about this case, including whether the families represented "crime victims" within the meaning of the CVRA. Instead, the Division took the position that that

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<sup>288</sup> Dkt. 1, 4.

<sup>289</sup> Dkt. 58 at 1-7.

<sup>290</sup> *Id.*

<sup>291</sup> *See, e.g.*, Appx. 2 (Naoise Ryan secured counsel in this criminal case on November 23, 2021).

<sup>292</sup> Dkt. 16.

<sup>293</sup> Anticipated testimony of Victim Family Representative.

<sup>294</sup> *Id.*

the call was merely a “listening session” for the Department to learn about the concerns of the victims’ families.<sup>295</sup>

296. On January 26, 2022, undersigned counsel and other representatives of the victims’ families had a Zoom conference call with Attorney General Merrick Garland and more than a dozen other attorneys working on the case. During the call, as had been required by representatives of the Attorney General before the call, the Attorney General and other Department attorneys declined to confer with the families’ representatives about this case, including whether the families represented “crime victims” within the meaning of the CVRA. Instead, the Attorney General took the position that the call was merely a “listening session” for the Department to learn about the concerns of the victims’ families.<sup>296</sup>

297. On February 4, 2022, counsel for the victims’ families, the Justice Department, and Boeing held a meet-and-confer via telephone regarding future scheduling. At that meeting, the Department revealed that it would be opposing the victims’ families’ position with a forty-page opposition. The Department, however, refused to answer any questions about what its opposition would say. The Department also refused to provide any information about why it would be opposing the families’ motions.<sup>297</sup>

298. At the February 4 meet-and-confer, the victims’ families’ counsel asked the Department’s lawyer whether, even if the Department believed it was not legally obligated to produce such supporting information, it would nonetheless voluntarily provide it to the victims’ families. The lawyer indicated that he was not authorized to discuss that subject.<sup>298</sup>

299. On February 6, 2022, the victims’ families followed up with a written request to the Attorney General and other Department attorneys for information helpful to the families’ position.<sup>299</sup>

300. On February 11, 2022, the victims’ families sent another communication to the Department, requesting that it voluntarily produce information helpful to the victims’ families’ position. That same day, the Department’s lawyer responded briefly that the Government’s position remained that it opposed any such request.<sup>300</sup>

301. During their meetings with the Justice Department and in several emails and letters, the victims’ families have asked the Department to produce its factual information that would help them support the “crime victim” status of their loved ones. The Department has not denied that it

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<sup>295</sup> *Id.*

<sup>296</sup> *Id.*

<sup>297</sup> Dkt. 57 at 2.

<sup>298</sup> Anticipated testimony of Victims’ Family Representative.

<sup>299</sup> *Id.*

<sup>300</sup> *Id.*

possesses such information. Instead, it has repeatedly refused to provide any information to the families that it possesses that would help establish “crime victim” status.<sup>301</sup>

302. During their meetings with and in other communications to the Justice Department, the victims’ families have provided the Department with factual information and legal arguments about why they are protected “crime victims” under the CVRA.<sup>302</sup>

303. The Government possesses information tending to establish that in and around February 2020, the Government was criminally investigating the two crashes.<sup>303</sup>

304. The Government possesses information tending to establish that during its criminal investigation of Boeing, the Government investigated the possibility of filing charges for manslaughter or other forms of federal negligent homicide against Boeing and collected evidence supporting such charges.<sup>304</sup>

305. The Government possesses information tending to establish that Boeing was aware that the Government was concealing the deferred prosecution agreement (DPA) from the victims’ families until it was filed in court.<sup>305</sup>

306. The Government possesses information tending to establish that the FAA’s certification of the 737 MAX and the approval of only Level B differences training (i.e., no flight simulator training) had worldwide effects because of the deference that other countries provide to the FAA’s determinations.<sup>306</sup>

307. The Government possesses information tending to establish that but for Boeing’s conspiracy to defraud the FAA AEG, Lion Air flight 610 and Ethiopian Airlines flight 302 would not have crashed.<sup>307</sup>

308. The Government possesses information tending to establish that Boeing could reasonably foresee that its conspiracy would result in safety risks to—and crashes of—737 MAX aircraft.<sup>308</sup>

309. The Government possesses information tending to establish if the FAA AEG had not been deceived by Boeing’s conspiracy, before October 28, 2018, it would have ordered that pilot manuals for the 737 MAX must include an explanation of MCAS and how pilots should address an unintended activation, and that 737 MAX pilots should undergo simulator training on MCAS and how to mitigate an MCAS-generated emergency.<sup>309</sup>

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<sup>301</sup> *Id.*

<sup>302</sup> *Id.*

<sup>303</sup> Anticipated testimony of DOJ Representative.

<sup>304</sup> *Id.*

<sup>305</sup> *Id.*

<sup>306</sup> *Id.*

<sup>307</sup> *Id.*

<sup>308</sup> *Id.*

<sup>309</sup> *Id.*

310. The Government possesses information tending to establish that if the FAA AEG had not been deceived by Boeing's conspiracy, the pilot manuals for the 737 MAX used by foreign carriers (including Lion Air and Ethiopian Airlines) would have included an explanation of MCAS and how pilots should address an unintended MCAS activation it before the two crashes.<sup>310</sup>

311. The Government possesses information tending to establish that if the FAA AEG had not been deceived by Boeing's conspiracy, the pilot training for the 737 MAX used by foreign carriers (including Lion Air and Ethiopian Airlines) would have included simulator training on MCAS and how to mitigate an MCAS-generated emergency before the two crashes.<sup>311</sup>

312. The Government possesses information tending to establish that if the pilots flying Lion Air Flight 610 and Ethiopian Airlines Flight 302 had received simulator training on MCAS and how to mitigate an MCAS-generated emergency, it would have reduced the risk that the two flights would crash.<sup>312</sup>

313. The Government possesses information tending to establish that if the pilots flying Lion Air Flight 610 and Ethiopian Airlines Flight 302 had been given an aircraft operating manual and training material for the 737 MAX explaining MCAS and how to address an unintended MCAS activation, it would have reduced the risk that the two flights would crash.<sup>313</sup>

314. The Government possesses information tending to establish that it was a necessary part of Boeing's conspiracy that Lion Air and Ethiopian Airlines to remain unaware of the full scope of MCAS's capabilities; if those airlines (and their pilots) had been told about the full scope of MCAS, that information would have inevitably found its way back to the FAA—defeating the purpose of the conspiracy.<sup>314</sup>

315. The Government possesses information tending to establish that after the two crashes, the FAA AEG ultimately decided that pilot manuals for the 737 MAX must include an explanation of MCAS and how pilots should address an unintended MCAS activation and that 737 MAX pilots should undergo simulator training on the effects of MCAS.<sup>315</sup>

316. Boeing has never been arraigned on the charges filed against it.<sup>316</sup>

317. Boeing has never had conditions of release set, pursuant to law, for the period during which the DPA will be pending.<sup>317</sup>

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<sup>310</sup> *Id.*

<sup>311</sup> *Id.*

<sup>312</sup> *Id.*

<sup>313</sup> *Id.*

<sup>314</sup> *Id.*

<sup>315</sup> *Id.*

<sup>316</sup> Dkt. 66 at 6.

<sup>317</sup> Dkt. 66 at 8-9.



318. If given the opportunity to make a presentation to the Court, several of the victims' family members would urge that one of the conditions of release that should be imposed on Boeing is a corporate monitor in charge of monitoring the safety of the aircraft Boeing is producing.<sup>318</sup>

319. If Boeing were publicly arraigned, some of the victims' families would attend the arraignment.<sup>319</sup>

320. If the Court directs the Justice Department to meet and confer with the victims' families about its decision to not to prosecute Boeing, a number of the victims' families would attend such a meeting.<sup>320</sup>

321. If the Court directs the Justice Department to provide documents or other information related to Boeing's crime, the victims' families would review that information and find it helpful to their understanding of how their loved ones were killed—and how the proceedings in this case have unfolded.<sup>321</sup>

322. If given an opportunity to address the Court about whether to accept the DPA as written, a number of the victims' families would address the Court and raise arguments against accepting the DPA as written.<sup>322</sup>

323. If the Court excises or otherwise invalidates the "shall-not-file-charges" provision in the DPA barring further prosecution of Boeing, a number of the victims' families would exercise their right to confer with the Department about further prosecution of Boeing.<sup>323</sup>

324. If this Court finds that the victims families represent CVRA "crime victims," a number of the victims' families would exercise their rights under the CVRA, including their rights to receive notice, to seek reasonable protection from a defendant, to confer with prosecutors, and to be treated with fairness.<sup>324</sup>

## **XVII. Boeing's Senior Management was Involved in Deceiving the FAA**

325. Boeing's corporate push to expedite the production, certification, and release of the 737 MAX directly contributed to aircraft safety problems and the two 737 MAX crashes. A broad group of Boeing employees, officers, and directors—including the company's top leadership—actively and knowingly misled the public and regulators regarding the safety of the MAX.<sup>325</sup>

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<sup>318</sup> Dkt. 66 at 11 n.6.

<sup>319</sup> Dkt. 66 at 15.

<sup>320</sup> Anticipated testimony of victim representative.

<sup>321</sup> Anticipated testimony of victim representative.

<sup>322</sup> Anticipated testimony of victim representative.

<sup>323</sup> Anticipated testimony of victim representative.

<sup>324</sup> Anticipated testimony of victim representative.

<sup>325</sup> Dkt. 52 at 14.

326. Among other things, Boeing’s senior management and Board of Directors facilitated the misconduct giving rise to the MAX crashes by providing no oversight, ignoring red flags, concealing wrongdoing from the FAA, and attempting to cover up their abdication of responsibility.<sup>326</sup>

327. To ensure it remained blissfully unaware, Boeing neglected to implement procedures for employees and management to voice safety concerns to its Board of Directors. And when safety concerns were raised, employee warnings were either explicitly rejected by management or just ignored entirely.<sup>327</sup>

328. Boeing’s conspiracy to deceive the FAA was part of a pattern. Both Mark Forkner and Boeing Employee-2 were driven by the “Program Directive” to minimize pilot training requirements for the MAX, and both were subject to financial pressures that broadly affected many other Boeing employees involved in the MAX project.<sup>328</sup>

329. For example, a Boeing engineering manager complained to Boeing’s Director of Global Operations about impossible deadlines and economic pressures, admitting: “I don’t know how to fix these things . . . it’s systemic. It’s culture.”<sup>329</sup>

330. Boeing’s Board and leadership allowed severe, endemic safety issues to fester by consciously maintaining a position of willful ignorance. Because Boeing’s Board did not have an adequate reporting mechanism in place, many complaints of safety concerns simply never made it to the attention of the Board. On the rare occasion that concerns made it to the Board’s attention, the reports were “one-sided at best and false at worst, conveying only favorable and optimistic safety updates and assurances that the quality of Boeing’s aircraft would drive production and revenue.”<sup>330</sup>

331. Most alarmingly, Boeing’s Board of Directors *knew* of the 737 MAX’s safety issues before the second crash and still failed to take meaningful action. By February 2019, the Board was aware that there was a Justice Department investigation underway. Nevertheless, at their February Board meeting, “the Board affirmatively decided to delay its investigation into the 737 MAX, notwithstanding publicly reported concerns about the airplane’s safety.”<sup>331</sup>

332. The Board’s official policy was to bury its head in the sand. And there is ample evidence that the Board publicly lied about if and how it monitored the 737 MAX’s safety. In short, Boeing’s leadership directly participated in the type of deceit for which Mr. Forkner has now been indicted—and could fully understand the risks to public safety of the deception.<sup>332</sup>

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<sup>326</sup> *Id.*; see also anticipated testimony of Boeing representative.

<sup>327</sup> Dkt. 52 at 14.

<sup>328</sup> *Id.*

<sup>329</sup> *Id.*

<sup>330</sup> *Id.* at 15.

<sup>331</sup> *Id.*; anticipated testimony of Boeing representative.

<sup>332</sup> *Id.*

***Conclusion***

On information and belief, the victims' families' representatives could prove the foregoing if provided an evidentiary hearing regarding these issues. The families reserve the right to supplement the foregoing if they receive additional information relevant to these facts or if they receive from the Government specific concerns about the proffer.

Date: March 4, 2022

Respectfully submitted,

/s/ Warren T. Burns

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